THE IMPACTS OF MACRO-POLITICAL STRUCTURES ON THE INFLUENCE OF MUNICIPALITIES, TRADITIONAL LAND USERS, AND INDIGENOUS GOVERNANCE STRUCTURES IN EIA PROCESSES

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ABSTRACT

Environmental impact assessments (EIAs) are recognized as a vital planning tool in insuring the sustainable development of resource dependent communities. However, critics point out that the lack of efficiency and efficacy in the process impedes EIAs full potential. One dynamic often criticized for hindering this potential is politics, while there is a consensus that EIAs are inherently political how politics impacts the process is still poorly understood. Part of this is attributed to the limited EIA literature studying the root of politics: power. This thesis will study power and politics in EIA by using an analytical framework based on Anthony Giddens's structuration theory to examine the impacts of macro political structures on stakeholder dynamics. By conducting an in-depth comparative case study on two EIAs for mining projects, one in Northern Saskatchewan and one in Northern Norway, this thesis identifies that indigenous peoples in the Northern Saskatchewan case had more influence on the EIA process than their Norwegian counterparts, while the local level government in the Norwegian case had more opportunities to influence the EIA process than the local governments in Northern Saskatchewan. The study finds that these differences can largely be attributed to differences in the macro political structures, such as indigenous rights and the authority of different levels of governance, in each country.

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CHAPTER 1: INTRODUCTION

1.1 Introduction

Natural resource wealth continues to drive global interest in Arctic and sub-Arctic regions. Although commodity prices—especially oil and iron ore—have fallen over the past year, the long-term trend will see an increasing demand for Northern energy and mineral resources. Northern residents have expressed concerns that profits will flow South and that irreversible socio-economic and environmental damages will stay in the North (Bone 2012). Northern communities demand a greater say in the development of Northern resources and seek a future that promotes sustainable development in the resource sector.

Northern economies based on resource extraction industries face an inherent conundrum: mineral and energy resources are finite, non-renewable, and, although they generate considerable wealth in the short- to mid-term, are not self-sustaining in the long-term. Hence, the mining industry is viewed as part, rather than the whole, of a sustainable development chain (Brundtland 1987). The resource sector's sustainable development chain starts with Northern communities located near the resource extraction sites, it then extends through supply and support hub centres, and finally ends at larger economic and political capitals. If there is a break in the chain, the sustainability for everyone involved is at risk.

This thesis is part of a larger project concerned with the relationship of Northern communities in this sustainability chain. The project focuses on three key contributing factors to sustainable resource development: corporate social responsibility (CSR),

capacity building, and environmental impact assessments (EIAs). This thesis focuses on the role of EIA through a comparative North-to-North study of Northern Norway and Northern Saskatchewan.

EIAs are a planning tool that help inform decision-makers on the potential environmental impacts of a proposed action (Noble 2015; Hanna 2009). The purpose of EIAs is not to reject or approve a particular action; rather, it is to ensure that decision-makers are aware of the implications and have the tools to help minimize, mitigate, or remediate adverse impacts (Noble 2015; Hanna 2009). Saskatchewan and Norway require EIAs for large resource projects that risk negatively impacting the environment.

These project-based EIAs are a critical point in the sustainability chain. They influence whether or not government officials allow a mining project to proceed and, if it does, what conditions are imposed. The approval or rejection of a mining development impacts the long-term socioeconomic outcomes of Northern communities. Additionally, it affects larger regional hubs and national economies that have the potential to benefit from resource sector activity.

EIAs for large mining projects are extremely arduous. The North's fragile ecosystems and unique socioeconomic dynamics compound the difficulties inherent to this process (Hermansen 2015). The complex and often controversial proposed mines in the North cause EIAs to be taxing on companies, communities, and government agencies alike. The entire EIA process generally takes several years to complete. Despite these challenges, Northern communities regard the process as an essential tool for ensuring their issues and concerns are addressed. The public consultation process, a broad definition of the term 'environment', and the perceived political clout of the process are

some of the important drivers that have kept this process relevant. Living up to the public's expectation of community involvement and engagement in the EIA process continues to be an immense challenge in both Northern Norway and Northern Saskatchewan. Each region can learn from the successes and failures of the other.

The political component of EIA creates many challenges and inefficiencies in the process. EIAs are by design a neutral, science-based tool that generates impartial information on the impacts of a proposed project. In practice they do not and cannot live up to this description. EIAs are intrinsically political (Fisher 2015; Runhaar and Harts 2015). The majority of practitioners and researchers agree with this statement; however, there is little understanding on how politics operate within EIAs (Cashmore and Richardson 2013). Research on the impacts of larger political structures and power relations on the politics within the EIA is still in its infancy (Cashmore and Richardson 2013). Understanding how politics and power impact the EIA process is vital for frontline communities because their agency is critical for sustainable development.

Sustainable development is development that meets the needs of current generations while not compromising the needs of future generations (Bruntdland 1987). Governments, industry, and communities often use this term when discussing the mining industry, which – with its boom-bust cycle – has a notorious reputation for being unsustainable. Studies tackling sustainable development in the mining industry emphasise the importance of community involvement and agency in the decision making process (Azapagic 2004; Kemp 2010; Glucker et al. 2013; Sinclair, Diduck, and Fitzpatrick 2008). Due to the importance of community engagement, this thesis will focus on the

community-level aspects of EIAs by examining the role of local and indigenous governance in the EIA process in Northern Norway and Northern Saskatchewan.

Preliminary data collection for this thesis suggested that in Northern Norway municipalities play a much larger role and have more influence in the EIA process than indigenous groups. In Northern Saskatchewan preliminary data collection suggested the opposite– indigenous groups were more powerful than their municipal counterparts. This thesis will explore how political structures and resources can enable certain actors to exert power and have a more influential role in the EIA process than others.

1.2 Research Question

This thesis will investigate the following question:

> Do political structures impact how groups in frontline communities influence the EIA process, and if so how?

1.3 Case Studies

This study will focus on the Northern Administration District (NAD) (see Figure 1.1) of Saskatchewan and the Finnmark County of Norway as comparative referents. These two regions are the focus of the larger project that this thesis is a part of. These administrative districts do not oversee of administer EIAs, however focussing on regional areas establishes cultural, political, and socioeconomic context that is unique to these Northern regions.

There are several reasons why NAD and Finnmark Country are strong choices as comparative referents. Both are located in the circumpolar North, they are within Western liberal democracies, contain extant mining activity, have long-standing EIA policies, and are homelands to large indigenous populations. Importantly, in both regions the question

of sustainable development in the mining industry is an important dimension of public debate. The following two sections provide political and socioeconomic context for each case study region.

1.3.1 Northern Saskatchewan

At 268,390 square km, the NAD in Saskatchewan accounts for nearly half of the province's territorial expanse (Statistics Canada 2012). As of 2011, the NAD had a population of 36,557; its two largest towns La Loche and La Ronge, had populations of 2,611 and 2,304 respectively (Statistics Canada 2012; Government of Saskatchewan 2015). There are approximately 45 communities in the area (Statistics Canada 2012; Government of Saskatchewan 2015). The NAD is 85.6% aboriginal with the majority identifying as Cree, Dene, and Métis (Government of Saskatchewan 2015). Two-thirds of its total population are under 35 years of age (Government of Saskatchewan 2015).

The region is resource rich and heavily dependent on industry, particularly mining. In 2011, the mining industry in Northern Saskatchewan contributed 1.4 billion dollars to the provincial economy (NDMF 2013). Uranium mining is the most prosperous industry in the region, accounting for 17% of worldwide uranium production in 2011 (NDMF 2013). Gold mining and rare earth elements exploration are also present in the area (NDMF 2013).

Governance in the region operates on a four-tiered system with federal, provincial, and local governments, as well as indigenous governance[1] systems each

[1] Indigenous governance systems in Canada are exceedingly complex with multiple organizations at each level of government (federal, provincial, regional, local). In this thesis, I will focus specifically on local indigenous governance systems in Canada (First Nations bands, and Métis Locals) because they play a large role in the EIA process.

having different roles and responsibilities. There are three types of municipalities in the NAD: Northern towns, Northern villages and Northern hamlets. These municipalities have elected councils and are responsible for local administrative issues, such as roads and fire services, within their community boundaries. In addition to the three types of municipalities, the NAD also has northern settlements. Northern settlements elect a local advisory board that reports to the Minister of Government Relations. Ultimately, the province is responsible for the management of local services and administration of Northern settlements. Both Northern municipalities and Northern settlements are governed in accordance with the province's *Northern Municipalities Act, 2010* and are a provincial responsibility. The major municipal players in the Northern Saskatchewan case study are Patuanak, a Northern hamlet, and Pinehouse, a Northern village. First Nation bands, such as English River First Nation (ERFN), have a similar administrative role as northern municipalities. They too have an elected council responsible for managing the day-to-day affairs of the band but unlike municipalities, they are governed in accordance with the *Indian Act* and are a federal responsibility.

Local level Métis governance systems are called Locals. They are currently not recognized as government institutions but rather regarded as 'organizations' and do not have a federally delegated administrative role (Madden, Graham, and Wilson 2005). Despite the lack of self-government recognition Métis locals are important actors politically and culturally in the region. They play a prominent role in the resource development processes in Northern Saskatchewan.

The provincial government and federal government have a broader set of responsibilities, for example the provincial government manages managing natural

resources. The federal government is responsible for fisheries, migratory species, and indigenous affairs.

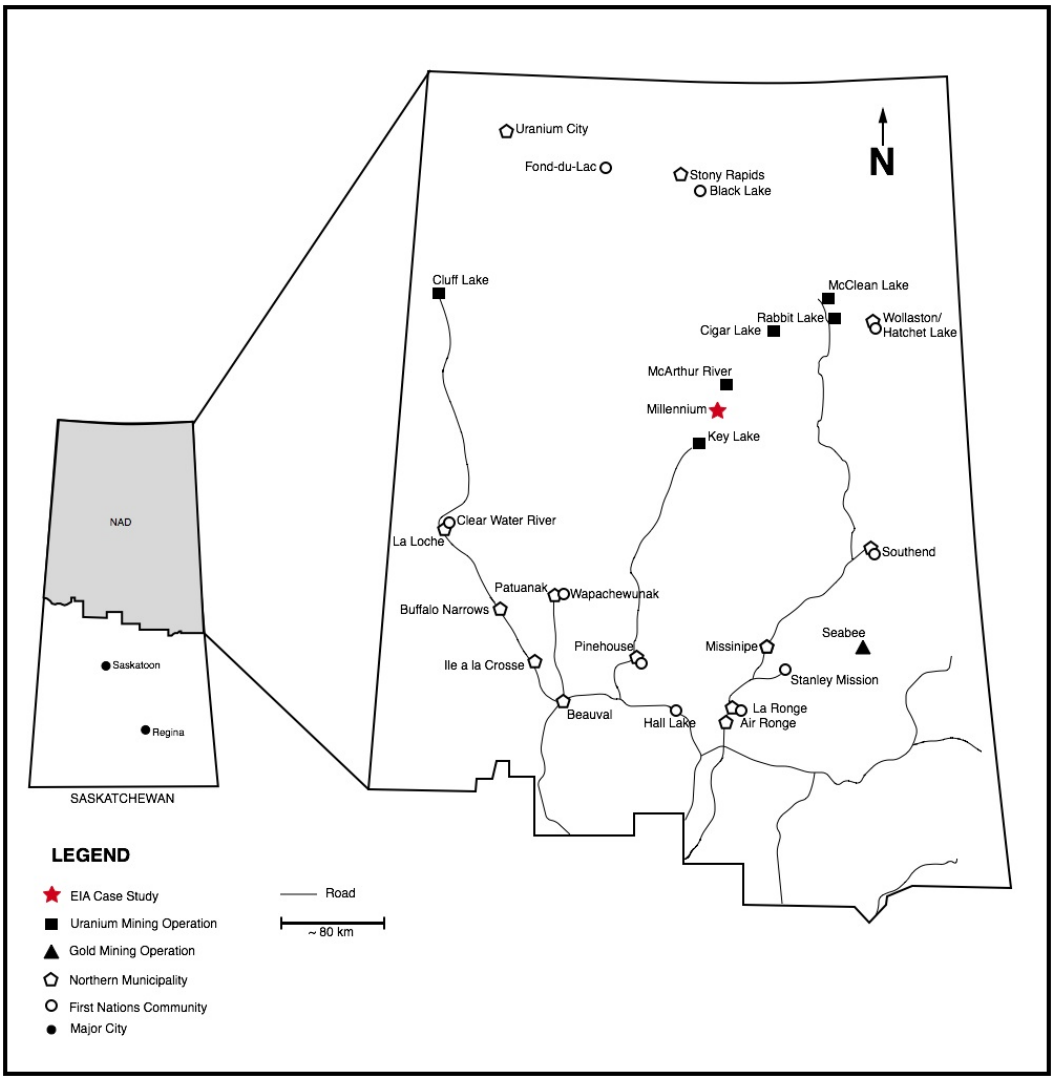
In Canada, environmental regulation is multi-jurisdictional at the federal, provincial, and territorial level (Hanna 2009; Hickey, Brunet, and Allan 2010; Noble 2015). Additionally, certain aboriginal land claim agreements, such as the James Bay and Northern Quebec Agreement, include provision for regulatory control over EIAs (Noble 2015). Each order of government has separate legislation: the *Canadian Environmental Assessment Act* (*CEAA*) (Government of Canada, 2012) and the *Environmental Assessment Act* (Government of Saskatchewan 2013). Often a major undertaking will be subject to both acts. When this happens, federal and provincial authorities have three potential routes[2]. They can jointly conduct an EIA, one government can delegate part of the EIA process to the other, or the federal EIA can be substituted by another jurisdictional EIA[3] (Noble 2015). In each situation the public and proponent undergo a single EIA, but the two levels of government retain independent decision making over issues that are under their jurisdiction (Minister of the Environment 2014). In other words, one project equals one assessment (Noble 2015; Hanna 2009).

In addition to consultation as part of EA legislation, the Crown[4] is constitutionally obligated to meaningfully consult with aboriginal peoples when a proposed project has the potential to impact their original rights to practice traditional activities on their territories. Generally, consultation occurs during the public participation component of an

[2] Certain projects, such as uranium mines, cannot be delegated or substituted
[3] The option to delegate part of an EIA or to substitute an EIA using equivalency were added when the new *CEAA* was introduced in 2012 (Noble 2015)
[4] In Canada 'the Crown' refers to either a provincial government or the federal government

EIA. Both federal and provincial governments have developed guidelines to aid government officials and proponents in the consultation process, specifically: *Aboriginal Consultation and Accommodation* (Canada and Aboriginal Affairs and Northern Development Canada 2011) and *Proponents Guide: Consultation with First Nations and Métis in Saskatchewan Environmental Impact Assessment*.

Figure 1.1 Map of NAD



1.3.2 Northern Norway

Finnmark County (see Figure 1.2) is Norway's northernmost county. Spanning a total of 48, 649 square km, it is also the largest (Finnmark County Authority 2010). Currently, the county has approximately 75, 600, inhabitants; its largest towns are Alta at 19, 800 inhabitants, Hammerfest at 10, 300 inhabitants, and Kirkenes (municipality of Sør-Varanger) at 10, 000 inhabitants (Statistics Norway 2015). Finnmark County is rich in resources and relies heavily on revenue generated from oil and gas, mining, and fisheries (FCA 2010). Reindeer farming, fish farming, tourism, and public service round out the rest of the economic activity in the area (FCA 2010). In the coming years, unreliable oil and gas prices will push Norway to diversify its economy, making mining an even more important industry and issue in the area.

Finnmark County is Norway's most valuable mining region. Iron ore, nepheline syenite, Alta slate, and quartzite are all mined in the region (FCA 2010). Mining projects are a polarising issue in the area because, although they bring much needed economic activity, they risk compromising traditional reindeer husbandry and polluting the local fjords (Magga 2015; Nilsen 2015; Fjellheim 2015). Critics of the mining industry argue that companies are using high unemployment rates in the region as leverage for getting mining projects approved (Borgenvik 2014). Mining is not the only industry in the area interested in using large portions of Northern landscape (Fjellheim 2015; Nygaard 2015). Energy projects and reindeer herding compound demands for land use in the North creating conflicts that are huge strain for municipalities and local Sami (Nygaard 2015; Fjellheim 2015).

Governance in Norway operates on a three-tiered system: national, regional (county), and local (municipal). The term municipality in Norway is not akin to the term

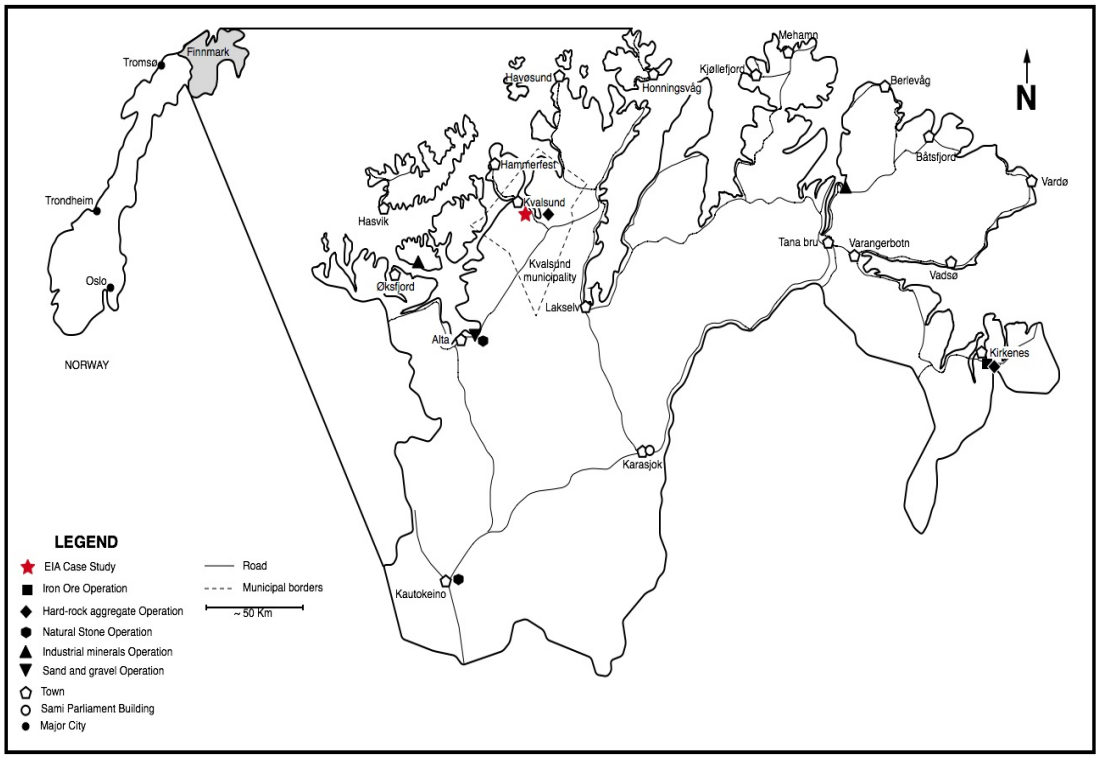
municipality in Canada. Spatially municipalities in Norway are, generally, the equivalent of "counties" in rural Canada albeit with the administrative duties and structure of a municipal/local government. In rural Norway, multiple small communities within a designated geographic boundary make up a single municipality. These communities may have some form of independent governance; however, municipalities are considered the 'atomic unit' of local governance (Davidrajuh 2010). Unlike Northern Saskatchewan, the majority of the territory of Northern Norway lies within the boundaries of all the municipalities. Norwegian municipalities are responsible for local issues within their jurisdiction such as education, outpatient health care, and transit infrastructure (Davidrajuh 2010; Trasti 2015; Wartiainen, 2015). They play a large role in the economic planning and zoning of their district including resource management (Davidrajuh 2010; Fauchald 2014).

Counties are responsible for regional governance. Their responsibilities include education, regional infrastructure, and economic and cultural development. There are 19 counties in Norway. Historically, Finnmark County has had the same administrative duties as its Southern counterparts; however, this changed in 2005 when the Norwegian government enacted the *Finnmark Act* (Norwegian Government 2005). This act transferred 95% of the county's land to its inhabitants, giving Finnmark additional powers with regards to land management – particularly hunting and fishing (Asbjørnsen 2015). The Finnmark Estate, which has Sami and non-Sami representatives, manages these lands. Despite this transfer of land and authority, the Norwegian government retains the majority of mineral rights (Nygaard 2015).

As a unitary state, the Norwegian government is the final authority on all matters of government. The state plays a major role in resource management by legislating mining policy and environmental regulations as well as authorizing permits for resource extraction.

Norway's primary legislation regarding EIA regulation is the *Planning and Building Act* (Norwegian Agency for Development Cooperation (NORAD) 2003). There are also additional assessment provisions set out in the *Pollution Control Act* and the *Petroleum Act* (Henriksen, Gormley, and Nilsen 2012). International standards influence Norway's EIA legislation. As a member of the European Economic Area, Norway has adopted the provisions in the European Union (EU) Directive on Environmental Impact Assessment and follows the requirements set out in the United Nations Economic Commission for Europe (UNECE) Convention on Environmental Impact Assessment in a Transboundary Context (NORAD 2003; Henriksen, Gormley, and Nilsen 2012). The Norwegian government and its relevant ministries, Mining Authority, Ministry of Environment (MoE), Ministry of Local Government and Modernisation, and the Directorate for Fisheries that oversee EIA are the final authority on the subject. However, because municipalities have core responsibilities with regards to strategic planning and EIAs fall under the *Planning and Building Act* municipalities in Norway play a major regulatory role in the EIA process (Nygaard 2015). The Finnmark Estate also has a role in the process, albeit a smaller one (Asbjørnsen 2015; Nygaard 2015).

Figure 1.2 Map of Finnmark County



1.4 Methodology

This research project uses a comparative case-study method. This method combines two traditional methods of analysis in political science: the comparative analysis and the case study analysis. In the comparative analysis method the researcher compares two or more units of study (Archer and Berdahl 2011). The objective is to explain the differences and similarities between the units of study (Archer and Berdahl 2011). In contrast, in the case study analysis the researcher conducts a detailed investigation of a single event with the purpose of finding general causal principles (Archer and Berdahl 2011).

This method is advantageous for three reasons. Firstly, it allows the researcher "to explore the relative significance of power as an explanatory factor" (Cashmore and Axelsson 2013), because it account for mediating variables. The significance of power is

important for understanding the implications of political structures. I explore this concept in greater detail in Chapter 2. Secondly, comparative studies are an effective means for drawing out the implications of macro-political structures on governance, which is the interest of this study (Christensen and Laegreid 1999). Thirdly, subarctic (Northern Saskatchewan) and arctic (Northern Norway) comparative work is valuable when studying Northern issues because it allows the researcher to step away from the idea of Northern exceptionalism[5] and "examine the ways that developments in other countries help explain gains in their own region or nation." (Coates 1994:19).

The larger project that this thesis is associated with determined the two case study regions: Northern Saskatchewan and Northern Norway. These case studies made for a compelling study because the two regions have enough differences in their political structures to provide an interesting contrast, but not so much that there are too many external variables to draw insightful inferences. I primarily collected data for the case studies through document analysis. In addition to data collection, I conducted supplementary interviews with relevant stakeholders and attended a field trip in Norway and Sweden and two conferences in Northern Saskatchewan.

Documents analysed for this research include legislation concerning EIA such as *CEAA* (2012), Saskatchewan's *Environmental Assessment Act*, the *Norwegian Mining Act*, Norway's *Planning and Building Act*, and Norway's *Regulations on Environmental Impact Assessment*. EIA policy documents such the Government of Saskatchewan's "Environmental Assessment in Saskatchewan" (2014). Government and industry EIA guidelines including the Government of Canada's "Aboriginal Consultation and

[5] Northern exceptionalism is "the belief that it [the North] exists outside the realm of traditional conceptual frameworks" (Coates 1994: 16).

Accommodation" (2011), the Government of Saskatchewan's " Proponents Guide: Consultation with First Nations and Métis in Saskatchewan Environmental Impact Assessment" (2014), and the Prospectors and Developers Association of Canada's (PDAC) "Exploration and Mining Guide for Aboriginal Communities (2013). I examined a several sets of documents including scoping documents, environmental impact statements (EIS), planning documents, government statements, comments submitted by the public, and media coverage for both the Millennium and Nussir case studies. I also briefly studied documents and articles concerning proposals for other mining projects in the regions of study, notably Rabbit Lake Extension Project and the Gold Heart Gold Mine Project in Northern Saskatchewan, and Artic Gold's proposal for a mine in Kautokeino and the now defunct iron ore mine in Kirkenes in Northern Norway, to provide context for the two case studies.

The type of document being examined determined the document analysis process. The majority of documents fell into three categories: guidelines, legislation, and EIA documents. I examined guideline documents first. The purpose of reading guidelines was to determine the following: legislation that guides the EIA process, the different steps in the EIA process, the different actors in the EIA process, and who is responsible for decision making. I cross-referenced guidelines that were older than the most recent changes to EIA legislation against legislation and academic papers to ensure that information included in this study was up to date.

I examined legislative documents second. I collected information on how the EIA processes are triggered and how relevant terminology, such as "development" and "environment", is defined. I examined both *CEAA, 2012* and *CEAA, 1992* because the

CEAA, 1992 was replaced while the Millennium project was undergoing its EIA. I also consulted relevant academic works in order to understand how the changes impacted the way federal assessments are conducted.

The final documents I studied were the EIA documents. First, all the EIA documents I collected were sorted into the respective EIA steps they were associated with. I noted their dates in order to establish a timeline. I also collected information on the actors involved in drafting the document. I marked documents that included scoping guidelines, EISs, technical reviews, official decisions, information pertaining to social and economic impacts, and public comments for a more detailed review. I examined EIA documents that had multiple iterations, such as scoping documents, against one another in order to identify major differences, such as a change in valued environmental components (VECs). I assessed technical documents and public comments (see Appendix 1) that were available concerning the respective public document to see if information in these documents could be correlated to the changes made in the EIA document. I used keyword searches to help navigate lengthy documents. I read official decisions and studies regarding socio-economic impacts to provide context and information for the study. I did not examine in detail documents that did not address socio-economic impacts or to key changes identified, such as, "Akvaplan - Marine fish Baseline study" (Akvaplan 2011). I translated material in Norwegian using Google Translate; a native Norwegian speaker helped with some of the ambiguities in the translated text. A considerable amount of information was available in English; however, it is important to note that some information was likely lost in translation.

I along with colleagues conducted interviews using semi-structured format. Meticulous notes were taken during each interview. Interviewees were informed on the topic of the research project prior to commencing the interview. At this point consent was also obtained. I prepared a set of questions (see Table 1.1) prior to the interviews. They were adapted appropriately for the respondents and follow up questions were asked accordingly.

Table 1.1 Set of questions for interviews

1	Can you explain to me how the environmental assessment process works in Norway/Saskatchewan? What is the role of the agency you work for in the process?
2	What works well? What does not?
3	Are environmental assessment processes helping or hindering socio-economic development in the area?
4	Do other stakeholders perceive the environmental assessment process differently?

For the purpose of this thesis I examined a single EIA in each region. I chose the EIAs based on three factors: how current the project proposal was, how similar the project was to the other case study, and accessibility to relevant documents. The EIAs I chose for this study are the Millennium uranium mine proposed by Cameco Corporation and the Nuissir copper mine proposed by Nussir (see Table 1.2).

In Norway, I along with colleagues working on the larger project that this thesis is a part of conducted semi-structured interviews with relevant stakeholders in the EIA process. The interviewees we selected were based on recommendations from the Barents Institute[6]. The goal was to reach a diverse and relevant set of actors involved in the EIA process. Interviewees included a senior environmental scientist working in the mining

[6] The Barents Institute is an academic institute associated with the University of Trømso that specializes in borders studies, transnational relations and northern development in the Barents Region

industry (Hermansen 2015), a municipal employee who works in land management (Trasti 2015), an employee of the Finnmark Estate (Asbjørnsen 2015), a Sami government representative (Magga 2015), an employee working for the Sami Parliament (Fjellheim 2015), academics researching in Northern Norway (Fors 2015; Eikeland 2015), and the editor of the Barents Observer (Nilsen 2015) – the major news outlet in Northern Norway. In total we conducted 11 interviews in Northern Norway during a weeklong period. I also received an extensive tour of Sami Parliament during this period and visited three major towns in Northern Norway – Alta, Karasjok and Kirkenes.

Table 1.2 EIA Project Summary

Case-study	Northern Saskatchewan	Northern Norway
Project name	Millennium Mine	Nussir Mine
Company	Cameco Corporation (Domestic Corporation)	Nussir (Domestic Corporation)
Mine	Underground uranium mine	Underground copper mine
Mine Life	5-10 years	25-30 years
Estimated employment	136 permanent jobs 146 contracted jobs	150 permanent jobs
Closest community	115 km Wollaston Lake (~1, 250 inhabitants)	7 km Kvalsund (~ 1000 inhabitants)
Start of EIA	2009	2010
End of EIA	Provincial EIA 2013 Federal EIA on-hold	2014
Verdict	Provincial approval 2013 Federal on-hold	Approved 2014
Current project status (as of February 2016)	On-hold at request of Cameco Corporation	Approved by Norwegian Parliament

Interviews in Norway provided context to the EIA system in the region and public sentiments regarding mining developments. Several interviews provided leads on how to obtain official EIA documents. Many also discussed how pervasive politics are in the EIA process for mining development, and suggested that some actors' actions were

limited by political structures. These insights led me to focus on the political aspects of the EIA process to try and find what was limiting actors' agency. Additionally, findings during the field research in Northern Norway, particularly the discovery of the absence of an extensive EIA for the iron mine in Kirkenes, led to a change in the Norwegian case study upon return to Canada.

I also participated in a week-long field trip with the University of Trømso on the topic of "Indigenous peoples, resources, and rights" in Northern Norway and Sweden. This field trip included visits to cultural centres, research centres, and mining communities. It also included presentations from government officials, reindeer herders impacted by resource development, an environmental activist, and academics studying the impacts of resource development in Northern Norway and Sweden (see Appendix 2). The information provided during presentations, in addition to informal conversations with researchers, provided supplemental information for this thesis and reaffirmed that politics are a major factor in the assessment process in Norway.

Massive forest fires in Northern Saskatchewan in the summer of 2015 prevented us from doing interviews in the area. Two semi-structured interviews - one with a former First Nations government employee and academic (Carriere 2015), and another with members of the Canadian Nuclear Safety Commission (CNSC Staff 2015) - were conducted to provide context to the process of EIAs in Northern Saskatchewan. Additional information was supplied through correspondence with a senior environmental assessment advisor at the MoE in Saskatchewan.

I obtained additional cultural, political, and regulatory context for this thesis by attending seminars given by industry and academics during two separate conferences

hosted in Northern Saskatchewan. This included a detailed presentation on Cameco's engagement process with Northern communities, a presentation on how consultation with First Nations in Northern Saskatchewan operates, and presentations on the legal ramifications of the duty to consult and its impact on industry development. Similarly to Norway, respondents were very vocal that politics and political structures impacted the assessment process. Unfortunately, none of the interviewees or conference participants were familiar with the particularities of the EIA case examined. I obtained the majority of the details regarding the Millennium EIA through document analysis. The Saskatchewan's MoE provided me with pertinent documents for the case study, including the EIS for Millennium and transcripts of public consultation meetings for the project.

The number of interviewees in both Northern Norway and Northern Saskatchewan represent a small sample size relative to the number of individuals involved in the EIAs. I cross-referenced information collected in the interviews with media releases, relevant documents, and relevant academic papers to ensure validity. There were not enough interviews conducted to make generalizations based on the information collected; however, interviewees provided thoughtful insights and were extremely helpful in assisting with the collection of relevant documents. The limited number of interviews, particularly in the case of Saskatchewan, did hinder my ability to pick on subtleties that can only be achieved by directly collecting information from stakeholders, limiting my understanding of agency in the EIA process. The opportunity to conduct more interviews would have further enriched my data for this research project.

I used material released by the media, in addition to information provided by the interviewees and public comments in the EIA documents, to gain insight on the public

participation in the EIA case studies and general opinions with regards to the projects. I cross-referenced this information to check for inconsistencies in the narratives. The triangulation of data facilitated a more nuanced understanding of the role of public opinion in the EIA process.

1.5 Thesis Outline

This thesis has five chapters. The first chapter introduced the topic, discussed the case studies, and explained the methodology. The second chapter will cover theory and the analytical method used in this study. It provides an overview of environmental assessment (EA) literature and examines how power and politics have been assessed within the literature. It also outlines current gaps in the literature. This chapter examines the theoretical groundings of Giddens structuration theory and its applicability in the field of EA. Finally this chapter discusses the analytical framework applied in this thesis.

The third chapter begins by discussing the EIA process in Northern Saskatchewan and Northern Norway and the key decision arenas that were identified in each case study. It follows with a descriptions of all the actors identified in the case studies, their respective roles in the EA process and the different resources that were available to them. The last segment of this chapter identifies resources and maps how actors used these resources in each key decision arena.

The fourth chapter analyses the differences in the access to resources between the case studies and correlates them to macro-political structures. This chapter will primarily focus on the differences between municipalities, indigenous governance bodies, and traditional land users. This chapter also examines whether similarities between case

studies are associated with macro-political structures by discussing the role of national authorities and members of the public in the respective EIA cases.

The fifth chapter will conclude the study. It highlights major findings and discusses how they contribute to the literature. This chapter also considers the strengths and weaknesses of using structuration theory in EIA and suggest areas for future study.

CHAPTER 2: THEORY & ANALYTICAL FRAMEWORK

2.1. Introduction

Politics is often defined as who gets what, where, when and how. This familiar definition, drawn from the works of Harold Lasswell (1936), is a popular starting point for understanding what we mean by the word 'politics'. Lasswell's definition of politics highlights the importance of actors and influence (1936). "Political science, then, is the study of influence and the influential." (Laswell 1936).

It is often said that "the study of politics is the study of power." (Cashmore and Axelsson 2013). Over the years, theorists have established diverging views on the subject of power. Some of the most notable theorists are Arendt, Parsons, Barnes, Bachrach and Baratz, Lukes, Giddens, Foucault, and Clegg (Haugaard 2003). A popular understanding of power, supported by Parsons, Luhmann, Barnes, Clegg, Giddens, and many others, is that power is created through social order (Haugaard 2003). Scholars refer to this type of power as social power – as opposed to natural power, which is the physical manifestation of power through force (Haugaard 2003). At its basis this theory supposes that "the added capacity for action which actors gain from society derives from the existence of social order." (Haugaard 2003: 90). In this context power is akin to influence or as Giddens (1984:283) puts it "power is the means of getting things done".

Many political scientists are interested in examining the impacts of power and politics on the execution of public policy (Richardson 2005). The idea that EIAs are political, and that politics play an important role in resource planning has been present in the literature for decades (Beattie 1995; Susskin and Dunlap 1981; Rosenberg et al.

1981). In *Everything You Already Know About EIA (but don't often admit)* Robert Beattie (1995: 112) argues "Because EIAs are part of a decision-making process that has distributional impacts, they are, have been, and always will be political. This does not mean that they are unfair, unethical, useless, or bad." Despite EIA being a form of public policy, research from a political theory lens is limited (Cashmore and Richardson 2013; Richardson 2005).

2.2 EIA Literature

EIA literature, which spans over three decades, focuses primarily on three central themes: theoretical groundings, effectiveness, and quality (see Figure 2.1) (Retief 2010; Morgan 2012). These three themes cover a broad range of disciplines in biology, chemistry, and environmental science, as well as the health sciences, geography, planning, and social sciences. EIA literature also includes sub-fields, which address different forms of impact assessment such as strategic environmental assessment (SEA), health impact assessment, social impact assessment (SIA), cumulative effects assessment, and sustainability assessment. This breadth of study creates substantial opportunities to enrich the current scholarship by adopting a political theory lens.

Figure 2.1 General Debates in EIA Literature

Source: Retief 2010 p. 376

The first central theme, theoretical groundings, encompasses literature that deals with the foundation of EIA: what is it, do we need it, and what purpose is it trying to fulfil? (Morgan 2012; Retief 2010). Common discourses include trying to center EIA within the larger political/socio-economic context (Wright 2014; Lion, Donovan, and Bedggood 2013; Jay et al. 2007; Burton, Wilson, and Munn 1983), questioning the value of the rational decision-making model inherent in EIA (Weston 2010; Richardson 2005; Kørnøv and Thissen 2000; Elling 2009), and proposing new more collaborative and inclusive approaches to the EIA model (Weston 2010; Hourdequin et al. 2012; Öberg, Huge-Brodin, and Björklund 2012). Some of these studies take radical approaches by incorporating theories such as Marxism (Weston 2010) and Foucault-Habermas discourse (Aylett 2010; Persson 2006); however Morgan (2012: 8) argues, "there is an abundance of EIA literature, and more importantly an abundance of EIA practice, that suggests the

centre of gravity of EIA thinking is still firmly rooted at the rationalist end of that spectrum."

The second theme, effectiveness, includes studies that evaluate whether EIA is meeting its goals (Retief 2010; Morgan 2012). This includes examining the value of EIAs, their impact, and EIA follow-up practices (Morgan 2012; Retief 2010). The findings of the studies vary substantially since they are guided in large part on by the author's perspective of the purpose of EIAs (Morgan 2012; Elling 2009) for example, Morgan (2012) notes that some researchers critique the politicization of EIA as a barrier to effectiveness (Kruopiene, Zidoniene, and Dvarioniene 2009) while others suggest it enables effectiveness (Bartlett and Kurian 1999). In recent years, there have been several studies examining whether EIAs are in promoting sustainable development (Nykvist and Nilsson 2009; Morrison-Saunders and Retief 2012; White and Noble 2013; Morrison-Saunders and Pope 2013; Rozema et al. 2012). The general consensus is that EIAs do contribute or have the potential to contribute to sustainable development (Pope et al. 2013; Sheate 2012); however, sceptics remain (Jay et al. 2007; Cashmore et al. 2010). Despite the breadth of existing research on effectiveness in a literature review on EIA implementation researchers found that "the gap between expectation of EIA and their practical performance remains significant." (Zhang, Kørnøv, and Christensen 2013: 148)

The third central theme, quality, focuses on improving the procedural and technical aspects of EIA (Morgan 2012). There have been significant contributions to the topics of screening, scoping, impact prediction, significance, and monitoring/follow-up (Morgan 2012). One of the most studies topics is the issue of public participation (Hourdequin et al. 2012; Furia and Wallace-Jones 2000; O'Faircheallaigh 2010; Glucker

et al. 2013; Diduck et al. 2007; Lostarnau et al. 2011). Similarly to studies on effectiveness, studies examining the quality of public participation, have differing suggestions depending on their perspective on the purpose of EIA (Morgan 2012; O'Faircheallaigh 2010). Regardless of whether scholars suggestions on public participation reinforce the rationalist EIA model or push to a more collaborative approach there is an overwhelming consensus among academics that public participation in EIA is valuable and seeking to improve it is a worthy cause (O'Faircheallaigh 2010; Glucker et al. 2013; Salomons and Hoberg 2014; Noble 2015).

2.2.1 Power and Politics in EIA Literature

In general, studies on power and politics in EIA fall under the theoretical groundings thematic (Cashmore 2004; Richardson 2005; Cashmore, Bond, and Cobb 2008; Weston 2010). However, research on power and politics in EIA has also tackled issues regarding effectiveness (Cashmore et al. 2010) and quality (Petts 2003; Cotton and Mahroos-Alsaiari 2015). The research conducted in this thesis falls under the thematic of theoretical groundings because it concerns the foundational operations of EIA.

The limited literature on power, politics, and EIA is split into two categories: normative and analytical (Cashmore and Richardson 2013). Normative research explores how politics and power should operate within EIA. These studies focus on the public participation component of EIA and tackle ideas such as environmental justice, deliberate democracy, and knowledge-brokerage. Analytical research examines how politics and power operate within EIA. These studies focus on the micro-political dynamics within a single case study (Hansen et al. 2013), the limitations of rational decision-making in EIA (Cashmore, Bond, and Cobb 2008; Kørnøv and Thissen 2000; Cashmore 2004),

knowledge creation (Hayes and Westrup 2012), and conflict resolution (Devlin and Yap 2008). Despite the number of works listed above, relative to the broader literature on EIA and the breadth of work on the study of power, the topic of power and politics remains understudied (Cashmore and Richardson 2013).

There is little understanding of how macro-political structures impact the micro-politics within EIA. Cashmore and Axelsson (2013), who compared power dynamics on a policy developed by the World Bank and its implementation on the project level Dhaka, Bangladesh, is the only major study on the topic. They concluded that power, largely executed through institutions, played a significant role in determining the outcomes in each case.

Researchers studying the topic of politics in EIA identify public participation as a major component of the process in which power dynamics take place (Cashmore and Richardson 2013). In the field of impact assessment, scholars view public participation as a strong vehicle for contributing to sustainable development because it creates an opportunity for practitioners to understand the unique circumstances of a community (Sinclair, Diduck, and Fitzpatrick 2008; O'Faircheallaigh 2010). Sinclair and colleagues (2018:416) state, "as early as 1995 there was suggestion that participation in EIA is conducive to broad-based individual and social learning that could enable the transition to sustainability." Public participation can identify the particular needs and concerns of a community in relation to a proposed project (Hanna 2009; Noble 2015). Valued ecosystem components (VECs) are a baseline for evaluating the impacts of a project and in turn impact the type of proposed mitigation measures. Determining VECS requires

engaging the community because 'value to a community' is an important criterion practitioners consider when selecting VECs for an EIA (Hanna 2009).

Research studies have demonstrated that successful public participation improves the quality of the EIA and communities' respect for the EIA system (O'Faircheallaigh 2010; Glucker et al. 2013). It is also helps industry establish a social license to operate (Prno and Scott Slocombe 2012; Moffat and Zhang 2014). Successful public participation requires the establishment of open communication lines, trust between stakeholders, and meaningful engagement with the communities – not just taking notes of a community's complaints (Morgan 2012; Glucker et al. 2013; Sinclair, Diduck, and Fitzpatrick 2008; Wiklund 2011).

There are many barriers to public participation in EIA. These barriers are divided into two categories: structural (e.g. capacity to participate meaningfully) and individual (e.g. being unaware that there is an EIA) (Wiklund 2011; Morrison-Saunders and Early 2008; Bond et al. 2014). Regardless of whether the researcher approaches the topic of public participation from a theoretical perspective (Devlin and Yap 2008; Morrison-Saunders and Early 2008; Partidario and Sheate 2013; Hansen et al. 2013) or a procedural one (Wiklund 2011; Sinclair, Schneider, and Mitchell 2012) it is clear that politics and power are inescapable. Devlin and Yap (2008: 25) go as far as to suggest that, "Public participation will tend to reflect the distribution of social power rather than to alter it".

Public consultation has well known challenges: How do you make it meaningful? How do you engage with different groups? and how do you incorporate this data into an EIA? Suggestions for improving the system are abundant. There are a number of studies that focus on identifying systematic barriers in public consultation. Popular topics include

impacts of different systems of knowledge, the issues with capacity and communities not having the financial means to engage in public consultation, and participatory exhaustion.

2.2.2 Gaps

Presently, there is little research that examines how larger political structures and power, operating outside of the EIA process and public participation impact the entire process. Research to help understand this issue is relatively new (Cashmore and Axelsson 2013). More comparative case-studies where the difference in political structures could perhaps shed some light on the degree to which these structures impact the role of front-line communities in EIA are need to help address this gap (Cashmore and Axelsson 2013).

What researchers still need to explore in greater detail is the how power operates (Cashmore and Richardson 2013). Currently, research on the topic has focussed on the impacts of EIA legislation or the dynamics of the relationship between stakeholders within the EIA process. What we do not yet understand in any significant detail is how the macro-politics of a political structures impact the micro-politics within an EIA. By conducting a comparative case study this thesis aims to understand whether differences in political structures impact stakeholders access to resources in the EIA, their ability and efficacy to participate, and their influence on achieving their goals. This thesis will focus on the role of municipalities and indigenous governance bodies because they are the primary political actors representing frontline communities.

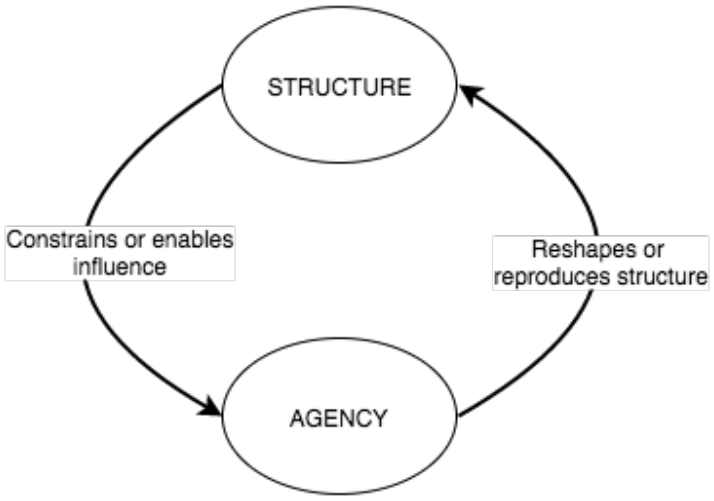
2.2.3 The Importance of Political Structures and Structuration Theory

Political structures play an important role in civil society. This study is interest in structures that impact, positively or negatively, the role and agency of aboriginal groups and municipalities within the state. These structures include government systems, judicial

systems, indigenous rights and governance, and regulation regarding mineral and property rights.

In this thesis, I examine the impacts of political structures on the EIA process using an analytical method based on structuration theory. Anthony Giddens developed structuration theory in the late 1970s and early 1980s. His theory proposes that social actions can be understood by examining the relationship of structures, defined as rules and resources, and agency, defined as interventions taken or considered by an actor (Baber 1991; Giddens 1984; Hansen et al. 2013). Giddens proposes that structures constrain or enables agency and agency, over time, can alter structure (see Figure 2.2).

Figure 2.2 Principles of Structuration Theory



Source: Hansen et al. 2013: 38

The primary components of structure are rules and resources. Rules include written laws, such as EIA legislation or constitutional rights, and general conventions imposed by particular social systems, such as the value of scientific knowledge and empirical evidence (Giddens 1984). For the purpose of this thesis, the 'rule' component of structure is primarily reflected by political structures. Rules are the means through which power is exercised (Hansen *et al.* 2013, Giddens 1984). Giddens divides resources

into two categories: allocative, which are material resources, and authoritative, which are non-material (Giddens 1984, see Table 2.1).

Table 2.1 Resources in Structuration Theory

Allocative (material) Resources	Authoritative (non-material) Resources
Material features of the environment (raw materials, material power sources)	Organization of social time-space (temporal-spatial constitution of paths and regions)
Means of material production/reproduction (instruments of production, technology)	Production/reproduction of the body (organization and relation of human beings in mutual association)
Produced goods (artefacts created by the interaction of 1 and 2)	Organization of life chances (constitution of chances of self-development and self-expression.)

Source: Giddens 1984: 258

Agency, the second key concept in structuration theory is when an actor (group or individual) chooses to intervene, or intentionally refrain from intervening (Hansen *et al.* 2013, Giddens 1984). Actors in this case study are the various groups and individuals involved in the EIA process including industry, governments, municipalities, and indigenous governance structures.

The relationship of structure and agency enables an exploration of what is known in social science as the two 'faces' of power: the influence of individuals (or groups) and the influence of inherently biased social systems (Giddens 1984). Power, in the case of structuration theory, is not a resource but rather resources are media through which agents exercise power (Giddens 1984, Hansen *et al.* 2013). Giddens (1984) uses several definitions of power in his work. This thesis uses his most basic definition, "power is the means of getting things done" (Giddens 1984: 283).

Structuration theory is well established in the social sciences and has demonstrated its applicability in various fields (Hansen *et al.* 2013). Social scientists

generally view the theory as an integration of two different approaches for studying social phenomena: structuralist theory, where cultural and societal structures shape action, and methodological individualism, where the agency of individuals shapes structure. Researchers have applied structuration theory in a multitude of fields, including the health sciences (Hardcastle, Usher, and Holmes 2005; Rütten and Gelius 2011; Chan, Deave, and Greenhalgh 2010), public policy (Parsons 1989; Daniel Kipo 2013) and environmental policy (Hansen *et al.* 2013).

Structuration theory is not all encompassing. This theory, as any theory in the social sciences, has its limitations and has been the subject of scholarly critique over the past three decades. Criticisms include the ambiguity of key terminology such as "structure", "resources", and "rules" (Sewell 1992; Thompson 1984; Turner 1986), the inseparability of structure and agency (Kort and Gharbi 2013; Archer 1996; Rose 1998; Layder, 2006), contradictions in Giddens's conceptualization of agency (Korth and Gharbi 2013; Loyal 2003), and empirical applicability (Korth and Gharbi 2013; Joseph 2006; Turner 1986; Gregson 1989). This study addresses these critiques of Giddens's theory by drawing on other scholarly works to clarify terminology and using a previously tested analytical framework (Hansen *et al.* 2013). Despite addressing critiques inherent flaws Giddens theory would make it challenging to successfully replicate this study. As Hansen *et al.* (2013:44) explain, "Other researchers could interpret resources, and other variables differently." Another limitation of structuration theory is that it is not designed to determine causality. Thus, the results from this study, although insightful, are not causal and cannot be generalized.

Researchers studying the politics of EIA argue that both structure and agency are critical factors shaping the EIA process (Hansen et al. 2013; Richardson and Cashmore 2011; Weston 2010). Hansen *et al.* (2013:38) present a strong case for using structuration theory as a means to analyze power and politics by relying exclusively on Giddens. Other authors (Richardson and Cashmore 2011; Weston 2010) used Giddens's work in combination with other theorists. While the choice of Hansen *et al.* (2013) to use a single theoretical framework has its drawbacks, it makes for a strong analytical framework, resulting in a research study that is concise, easy to follow, and produced insightful results. Power and politics are complex concepts and there is a strong need for researchers to complete nuanced studies on its implication in EIA (Cashmore and Richardson 2013). This is why this thesis employs Hansen's analytical framework, which draws heavily on structuration theory.

2.3 Structural Theory and EIA

Hansen *et al.*'s (2013) designed their analytical framework to highlight the dynamics of micro-powers in SEA for an aluminum production plant in Greenland. In this study, Hansen and her colleagues examined communication, both formal and informal, as the resource through which power is exercised. The authors chose to solely focus on communication as a resource due to initial findings that communication was the primary resource through which actors in the study were able to influence the SEA process. In this study, initial findings suggested that actors used several other resources in addition to communication to influence the EIA process. Thus, using Giddens's work defining resources this study broadened the scope of resources included in the analysis.

Hansen *et al*.'s (2013) study found that informal communication was extremely effective in influencing the decisions made during the SEA process. The study suggests the significance of informal communication may be present in other regions. Due to a lack of studies on this subject, researchers have yet to corroborate these findings. Because this study uses the same analytical framework the findings have the potential to support Hansen *et al*'s (2013) conclusions.

When reflecting on the use of structuration theory Hansen (2013:44) concludes, "that ST [structuration theory] provided a useful theoretical perspective for investigating the micro-power dynamics influencing how IA [impact assessment] interfaces with political decision-making." Their primary challenge with using structuration theory was defining resources, as Giddens's description is difficult to interpret. This thesis will heed Hansen's suggestions and consult another source (Sewell 1992) in addition to Giddens's work to identify resources.

This study made two modifications to Hansen *et al.*'s (2013) analytical framework. The first is the omission of social network analysis (SNA) in the mapping of actors' use of resources. The second is an additional analytical step for identifying resources in key decision arenas. Hansen *et al.* (2013) used SNA to design a diagram to map actors' use of formal and informal communication. Because in this study identifies multiple resources using SNA, which is designed for mapping relationships between actors, was no longer appropriate. This study focussed on examining which resources were available or unavailable to each group of actors in each key decision arena. The following is a description of the four analytic steps designed by Hansen *et al.* (2013) with the additional step defining resources (Step 3).

2.4 Analytical Framework

2.4.1 Identification of Key Decision Arenas

Key decision arenas are stages in the EIA process that involve choices that impact the final results of the EIA. I identified these stages by analyzing EIA policy legislations and guidelines. I cross-reference the identification of these arenas with information I collected during stakeholder interviews.

2.4.2 Identification of Actors in the Decision Making Process

Actors are any group or individual with a stake in the EIA process. In this thesis I narrowed down the list of actors to groups or individuals who played a role in the key decisions arenas.

2.4.3 Identification of Resources Used in the Decision Making Process

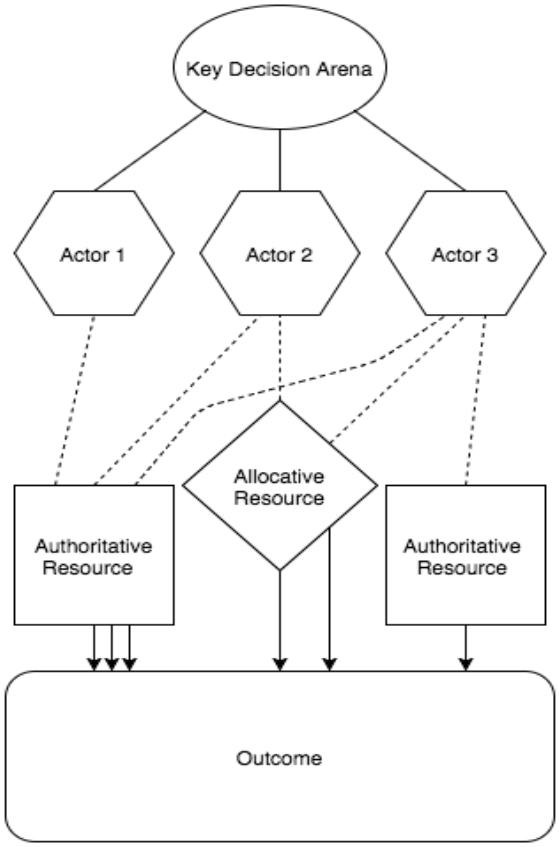
This step examines data from the document analysis, interviews, and broader academic literature and determines which resources were available to actors during the decision-making process. For the purpose of this study, resources are media through which actors exercised power within a key decision arena. This simplified definition of resources comes from Sewell's (1992:9) interpretation that by resources, Giddens implies, "anything that can serve as a source of power in social interaction." Resources were divided as per Giddens's structuration theory into material (allocative) and non-material (authoritative) resources. Material resources needed to be tangible, for example funding. Non-material resources were more difficult to identify because they are intangible media or abstract concepts,

Examples include scientific knowledge or public opinion.

2.4.4 Mapping the Actors' Use of Resources in Key Decision Arenas

I identified actors' use of resources in key decision arenas by examining key documents, such as EISs, in addition to information collected during interviews. I then divided resources into their respective categories. Actors' uses of these resources are compared to one another using diagrams (see Figure 2.3). The diagrams also include the outcomes of each key decision arenas.

Figure 2.3 Sample of Analysis Diagram



2.4.5 Analysis of Power Dynamics in Key Decision Arenas

I conducted a power analysis by examining the different resources accessible to actors within a key decision arena and considering how larger political structures impact their access. This discussion considers whether a particular resource, or a combination of resources, is more or less effective in exercising power. I did this by examining the

degree to which actors were successful in influencing the process so that their goals were reflected in the outcomes of each key decision arena.

2.5 Conclusion

Following a close examination of the literature on power and politics in EIA and the merits of structuration theory, it is clear Giddens's theory provides a useful theoretical framework for this study. The importance of structure and agency are reflected in initial findings and are identifies as key factors by experts in the field (Hansen *et al.* 2013; Richardson and Cashmore 2011; Weston 2010). Drawing on the analytical framework designed by Hansen *et al.* (2013) gives this study a methodological system for examining the data collected from the perspective of structuration theory. The theoretical and analytical framework chosen for this study allows for an insightful examination on the poorly understood relationship between macro-political structures and the on-the-ground execution of EIA.

The following chapter will apply the analytical steps 1 – 5 to each case study using the data collected during document analysis and stakeholder interviews. Step 1 – 4 covers both cases at once because the identification of key decisions arenas, actors, and resources was comparable in both case studies. Step 4 presents the mapping of actors' use of resources in key decision arenas in Northern Saskatchewan first, and Northern Norway second. Chapter 4 covers the fifth analytical step: analyzing of power dynamics in key decision arenas.

CHAPTER 3: PROCESS

3.1 Introduction

This chapter lays out the first four analytical steps described in Chapter 2 using information collected in the document analysis and stakeholder interviews. The general structure, notably the key decision arenas and resources, were similar in both cases. However, key actors, specifically local level actors, had very different access to resources in each key decision arena. This chapter focuses on outlining what happened in each EIA. Chapter 4 presents an analysis of the implications of power on the similarities and differences in the cases.

3.2 Identification of Key Decision Arenas

Analysis of key documents in each case study and data collected during the interview process confirmed that the general framework of the EIA process in each region were comparable to one another (Rust and McLeod 2008; Minister of the Environment 2014; Fauchald 2014; NORAD 2003). These EIAs processes draw on international practices and standards and is rooted in the United States' National Environmental Policy Act (NEPA) (Hanna 2009; Svensson 2011; Sadler 1996). In each case, practitioners adapted the EIA to the meet the particular demands of the individual project in addition to abiding by state laws and regulations (Cameco 2013; Sweco 2011). Adapting EIAs on a case-by-case basis is expected and necessary for having successful outcomes (Hanna 2009).

There were three steps in the EIA processes identified as keys decision arenas in each case study: screening, scoping, and the final approval of the EIA (see Figure 3.1 &

3.2). Factors in determining a key decision arena were the number of choices actors had to make and the influence of those choices on the outcomes of the process.

Figure 3.1 EIA Process and Key Decision Arenas in Saskatchewan

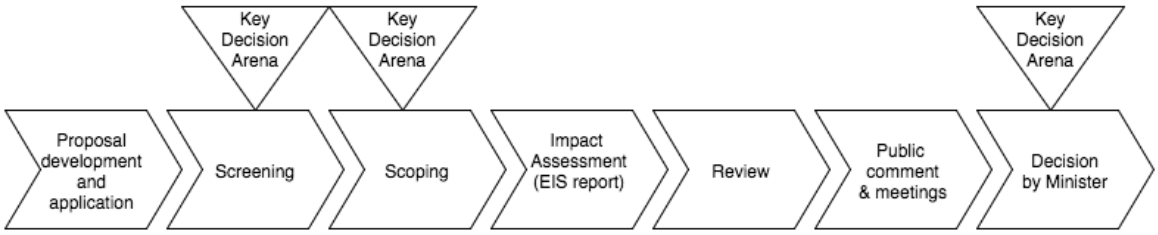


Figure 3.2 EIA Process and Key Decision Arenas in Norway

Screening is the first major step in any EIA (Hanna 2009; Noble 2015). It is the point in the process when decision-makers, e.g. governments, determine if an EIA is required, what type of EIA is required, and who will be appointed as the regulatory authorities (RAs) (Hanna 2009; Noble 2015).

The second key decision arena, scoping, sets the agenda for the rest of the EIA. Practitioners determine what gets assessed, and establish spatial and temporal boundaries for the EIA. EIAs cannot possibly cover everything – and they should not; it is a waste of time, money, energy and it does not meaningfully improve the process (Hanna 2009; Noble 2015).

The third key decision arena is the final approval of the project. Government guidelines consider this part of the EIA process. Arguably, it is also part of a larger agenda regarding resource planning. This is the point in the process were EIAs truly

become political as the information in the EIA is rarely the only factor considered in the decision-making. I considered this step as a key decision arena for this study, despite it being a transition point for the EIA, because the assessment remains a key component of the process, the same actors are participating, and it is a key point for determining if a project will become a reality.

Government guidelines single out public consultation as a 'step' in the EIA process. I did not single it out as a key decision arena because it occurs throughout the entire process and is not a point where decisions are made but rather it influences decisions throughout the process. Public consultation is a vital component in all of the aforementioned decisions arenas.

3.3 Identifying Actors in Key Decision Arenas

Structuration theory defines actors as "individuals or groups with an interest in the decision". In the case of the Millennium and Nussir mine the scope of interested actors was large – both have made national headlines. I narrowed down the number of actors to be studied in this thesis based on whether or not they participated in the EIA. In each case study there were upwards of 20 separate actors. I grouped actors based on their general role in society and their respective access to resources within each case study. I identified seven different actors: industry, municipality(ies), regional authorities, national/provincial authorities, indigenous governance structures, traditional resource users and members of the public (see Table 3.1). A full list of all the different actors who participated in key decision arenas in each EIA case study can be found in Appendix 3.

The first category of actors identified was industry. In each region a single company, Cameco Corporation in Northern Saskatchewan and Nussir ASA in Northern

Norway, proposed a mining project and was responsible for assessing the environmental impacts.

The second category was municipalities. In Northern Saskatchewan several communities (see Appendix 3) were interest in the project and consulted by the proponent during the EIA process. However, the majority of community engagement focused on two municipalities: the Northern Settlement of Pinehouse and the Northern Hamlet of Patuanak. In Northern Norway only the municipality of Kvalsund engaged in the key decision arenas.

The third category -regional authorities- was only present in the Norwegian case. Finnmark County was an active participant in key decision arenas. The NAD in Northern Saskatchewan does not operate as a unit of government and did not have a role in key decision arenas.

The fourth category of actors identified in this study was national/provincial authorities. These are actors that are part of an institution of government that holds constitutional authority. In Northern Saskatchewan, the CNSC, and the Saskatchewan MoE are the primary national/provincial authorities involved in the process. In Northern Norway, the MoE and the Directorate of Mineral Management are the main actors in this category. Additional national/provincial authorities (see Annexe 1) such as Fisheries and Oceans Canada, and Norwegian Directorate of Fisheries were also involved in the EIA. These actors acted as consultants during the EIA on an as needed basis and were responsible for ensuring regulations under their jurisdiction are met.

The fifth category of actors in the EIA was indigenous governance structures. In Northern Saskatchewan the English River First Nation (ERFN), the Métis Nation of

Saskatchewan (MNS) Local Number 82 (Patuanak) and the MNS Local Number 9 (Pinehouse) were the primary indigenous governance structures engaged in the EIA. Other indigenous governance structures in Northern Saskatchewan (see Annexe 1) also engaged in the EIA but were not the primary focus of the assessment. In Northern Norway, there is one indigenous governance structure: Sami Parliament. They actively engaged in key decision arenas throughout the Nussir EIA.

The sixth category of actors is traditional resource user(s). These are individuals or organized groups whose livelihoods are dependent on traditional economic pursuits that the proposed project risked impacting. These actors had a role within the key decision arenas that was independent of indigenous governance structures. In Northern Saskatchewan, there was a single individual who fit the traditional resource user category. Cameco specifically singled out this resource user in the EIA and had one-on-one meetings with him. In Northern Norway, the West Finnmark reindeer herding management and Reindeer herding district 22 were both active actors in this category. This category only includes resources users that were designated formal agents in the EIA process. However, it is important to acknowledge that in both cases there was additional support for the interest of traditional resource users from the community. Thus despite the actors in this category representing a small group of individuals, they had a broad base of support helping influence their interests in the process.

The remaining seventh category, members of the public, is for all the actors who did not fall under any of the previous categories. It includes non-governmental organizations, private enterprises and individuals (see Appendix 3). In this category are all the other actors who had an active interest in the outcomes of the project and sought to

have their voices heard within key decision arenas. These actors do not hold any legislative authority nor do they have any special rights. In Northern Saskatchewan, prominent members of the public included local northern businesses, individuals who actively participated in local meetings, the Northern Saskatchewan Environmental Quality Committee (NSEQC), and South Central Environmental Quality Sub-Committee (SCEQC). In Northern Norway, prominent members included individuals who organized petitions, the Norwegian Fisherman's Association and the Tromsø Univeristy Museum.

Table 3.1 Actors and Their Roles in the EIAs

Role within EIA	Northern Saskatchewan (Millennium case study)	Northern Norway (Nussir case study)
Proponent: Actor proposing the project, responsible for conducting the EIA	Industry (Cameco)	Industry (Nussir)
Regulatory Authorities (RAs): Actors overseeing the entire EIA process; responsible for ensuring that regulatory requirements are met	National/provincial authorities (CNSC and SEAB)	Municipality (Kvalsund)
Participants: Actors with an interest in the outcomes of the EIA; do not hold a position of authority within the process	Municipalities, Indigenous governance structures, members of the public and traditional resource users	Indigenous governance structures, members of the public and traditional resource users
Formal Decision Competence: Grants proponent license to operate	National/Provincial Authorities	National/Provincial Authorities Municipality Regional authority

A detailed list of all the actors included in each category can be found in Appendix 3

3.4 Identification of resources used in the decision making process

Similar resources (see Table 3.2) were present in the key decision arenas for each EIA.

The following section discusses the resources, defined as media through which actors exercised power, actors had access to in the key decision arenas.

Table 3.2 Resources Identified in Key Decision Arenas

Resource Category	Resource	Description
Material	Financial capacity	Access to notable financial resources that can be used to incentive other actors, hire experts and generate scientific knowledge, and/or increase communication capacity
Non-material	Formal communication	Written comments or transcripts of dialogue during periods of public consultation
Non-material	Informal communication	Casual forms of communication between groups, cannot be explicitly traced
Non-material	Scientific knowledge	Hard data built on empirical evidence; generally provided by a certified expert
Non-material	Legislative authority	Legal authority to make decisions based on government acts or constitutions
Non-material	Land rights	Land ownership or specific rights protecting a groups' activities on a segment of land
Non-material	Public opinion	General public sentiment presented through public demonstrations, petitions or mass media

3.4.1 Material Resources

Material resources or allocative resources refer to the variety of tangible means accessible to actors through which they exert power (Peters et al. 2012; Giddens 1984). In the case studies, I identified a single material resource: financial resources. Actors have the potential to use financial resources in several ways in order to exercise power for example an actor may chose to finance an independent study thus resulting in the actor

being more autonomous in the decision making process and, likely, more legitimate. An actor can also use the prospect of financial gains too influence another actor to support a decision that without the potential financial benefit the other actor would likely rebuff.

3.4.2 Non-Material Resources

Non-material resources, also known as authoritative resources, gives actors control over social time-space (Peters et al. 2012; Giddens 1984). These resources are conceptually abstract relative to material resources. Non-material resources include organizational control. This is the ability of an actor to control time-space dynamics (Giddens 1984), for example when and where a particular public meeting will be held, or if a step in the EIA process needs to be extended beyond the initial timeline. Communication is another authoritative resource. Communication can be informal, e.g. telephone conversations, or formal, e.g. public hearings (Hansen et al. 2013). Legislative authority is another important allocative resource. This resource demonstrates an actor's capacity to use the law to work in the actor's favour. Scientific knowledge is also an authoritative resource. This resource is useful because of the hierarchical weight it has been given over time. Another authoritative resource is land rights. Actors can use land rights as leverage to pressure other actors to take their views into account. The final authoritative resource is public opinion. Public opinion is a major cornerstone of western democracy. Actors can use this resource to pressure actors whose position of authority is dependent, at least partly, on public support.

3.5 Mapping Actors' Use of Resources

Actors in each case study have several opportunities to use resources in key decision arenas. Some actors, such as national/provincial authorities, had a similar access to resources in their respective regions. Others, notably municipalities, and indigenous governance structures had very different access to resources. The discrepancies each region strongly correlates with the differences in the political structures in each case study. The following section explores the individual findings in each key decision arena and presents the associated diagrams.

Northern Saskatchewan Decision Arena 1: Screening

This key decision arena starts with the proponent proposing a project and ends with the Crown designating the RAs for the EIA. Four resources were present in this key decision arena (see Figure 3.3): legislative authority, formal communication, informal communication, and public opinion. The outcome of the different actors' use of resources resulted in the launch of an official EIA, an agreement between the province and the federal government to oversee a joint assessment, and the proponent actively consulting stakeholders (see Figure 3.3).

In the fall of 2009, Cameco Corporation submitted a project description for the Millennium mining development to the provincial and federal authorities. The Saskatchewan MoE determined that Cameco's proposed Millennium project fit the definition of a 'development' under *The Saskatchewan Environmental Assessment Act* and must undergo an EIA (Cameco 2013). Under federal regulation a uranium mine is considered a 'project' and must undergo an EIA. At the time the EIA was triggered there were four possible EIA tracks: screening, comprehensive, mediation, or panel review

(Hanna 2009). The CNSC, which is a federal authority responsible for matters involving the nuclear industry, determined that according to the former *CEAA*[1] the project must undergo a comprehensive study EA in order for the agency to consider granting construction and operating licenses for the future mine (Cameco 2013, CNSC Staff 2015).

There was minimal discussion among actors on whether the project required an EIA because uranium mines were on the list of projects that require a comprehensive study. The MoE could have requested the project undergo a panel review, considered the strongest of the four types of review (Noble 2009), had there been pressure to do so. However, there was no evidence indicating that actors involved in the process were interested in proceeding with a panel review.

During this time, the CEAA signed an agreement with the CNSC to enable the CNSC to perform the role of Federal Environmental Assessment Coordinator. Pursuant to the Canada-Saskatchewan Agreement on Environmental Assessment Cooperation (2005) the provincial MoE and the CNSC agreed to conduct a joint assessment. Under the agreement the provincial MoE is the lead agency and contact for the EIA process (Cameco 2013). Cameco, before the process was even triggered, was already engaging with members of the public, municipalities, indigenous governance structures, and traditional land users in the region to identify parties interested in the project (Cameco 2013). All these actors were supportive of the project undergoing an EIA prior to the governments officially mandating one.

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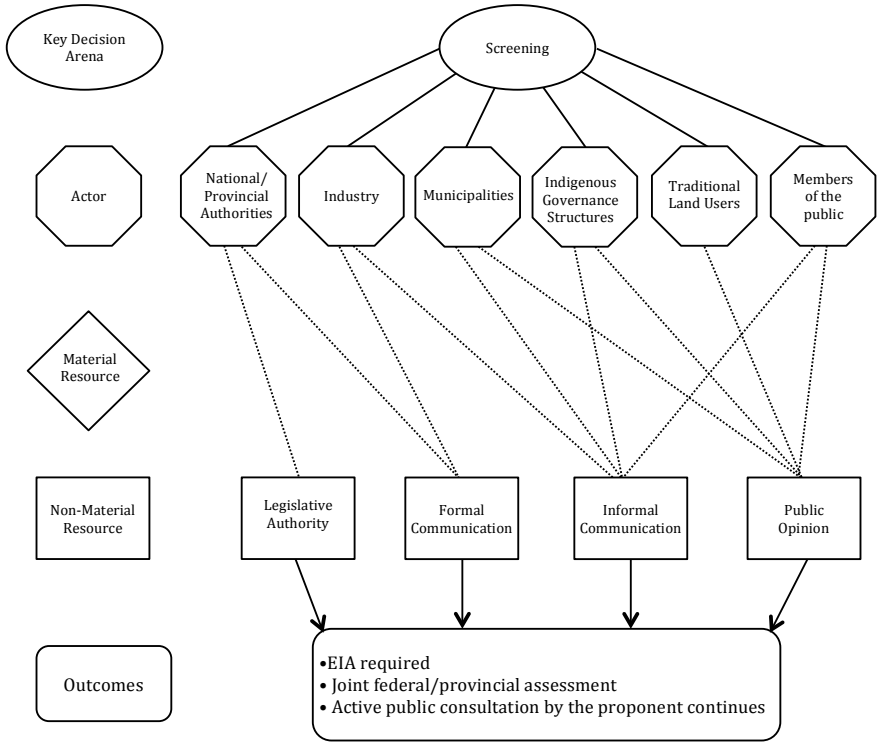
[1] To avoid confusion the former Canadian Environmental Assessment Act is referred to as *CEAA* while the new act is referred to as *CEAA, 2012*

Figure 3.3 Screening Millennium Project



Northern Saskatchewan Decision Arena 2: Scoping

The second key decision arena primarily consists of the RAs determining the scope of the EIA with the help of experts and the public. This key decision has seven different resources (see Figure 3.4): financial capacity, scientific knowledge, legislative authority, formal communication, informal communication, constitutional authority and public opinion. Actors' use of these resources resulted in the addition of three VECs to the final scoping document (see Figure 3.4).

Over the winter of 2010, the RAs drafted a scoping guideline for the project relying largely on internal experts from federal and provincial agencies, relevant legislation and science based policy documents and guidelines such as the *Decommissioning Planning for Licensing Activities* (CNSC 2000) and *Freshwater Intake*

End-of-Pipe Fish Screen Guideline (DFO 1995). In both federal and provincial EAs, the RAs are legally responsible for drafting the scoping guidelines.

During the scoping period a funding committee, independent from the EIA, allocated a total of $53, 113 to six Aboriginal groups to review project documents, engage in community consultation, and prepare a submission to the CEAA with the information the groups had gathered. The proponent and the RAs funded their own activities. Ensuring indigenous participation in EIAs impacting their traditional territory is essential for meeting the Crown's duty to consult.

Cameco held meetings with several local stakeholders (see Appendix 4) including environmental monitoring program committees that have a large community based component such as the SCEQC (Cameco 2013). On May 13, 2010 the RAs released a draft of the scoping guidelines. Between May 13, 2010 and June 22, 2010 the public could submit comments either online or in First Nations and municipal offices in the Athabasca region. The RAs tried to insure that the public was aware of the review process by putting out advertisements on the radio and in newspapers, sending mail outs to aboriginal groups, northern Saskatchewan communities, and interest groups, and posting information on federal and provincial websites.

Once the period of comment closed provincial and federal RAs reviewed the submissions and made final alterations to the scoping guideline. Additionally authorities considered input from industry both formally through written submissions regarding the scoping draft and informally through other channels (CNSC Staff 2015; Cameco 2013). During the period between the draft of the scoping guidelines (May 13, 2010) and the final scoping guideline documents (September 22, 2010) Cameco held two meetings one

with the SCEQC and the other with LLRIB leadership informing these groups on the technical details of the project and requesting their input (Cameco 2013; see Appendix 4).

A comparison between the original scoping draft and the final document indicate that the major difference between the two documents is the addition of three VECs: migratory birds and waterfowl; trappers and subsistence users; and air quality. In the *Record of Proceedings, Including Reasons for Decision* for the scoping of the Millennium EIA it states that, "Many revisions to the Guidelines were made on the basis of the comments received." (2010:3). These changes do in fact reflect the comments made during public consultation for example ERFN submitted the following (Cameco 2013, Appendix 1.1, Addendum D: 4-5):

> The list of VEC (valued ecological component) is rather generic. For instance a variety of colonial birds nest throughout northern Saskatchewan on lakes – including quite small lakes. They generally nest on small islands or reefs. If there are extensive beach areas they may be important. This type of habitat is used as stopover and resting and feeding areas by a wide variety of shorebirds as they travel north and south during spring and fall migration. Mining and transportation will create dust and perhaps entrain radionuclides into the air. Other VEC no on the list are trappers and subsistence users of the area, air quality. *Recommendation: include in the list of VECs groundwater, migrating birds and water fowl, trappers and subsistence users and air quality.*

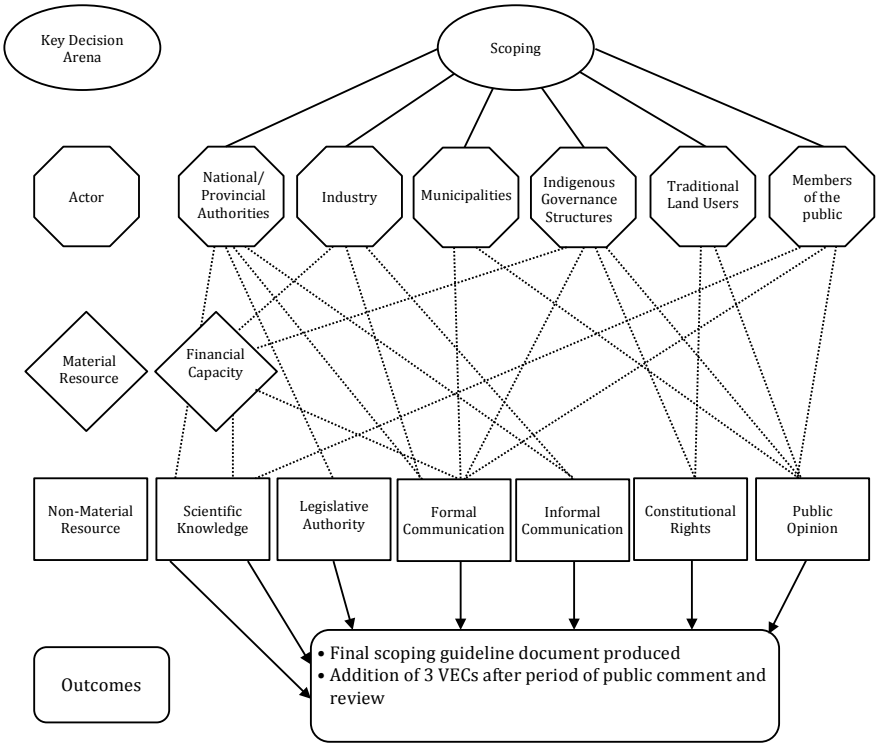
The Crown's response to the submission stated, "The VEC list in Section 2.6 was revised as suggested" (Cameco 2013, Appendix 1.1, Addendum D: 4).

It is worth noting that the *CEAA, 2012* introduced provisions requiring the assessment of a project's impact on migratory birds. While the new act was not in place during the scoping period in the spring of 2010 plans to replace the *CEAA* with new legislation were in place since 2009 (Noble 2015; Gibson 2012) thus foresight of future

legal requirements may have also influenced the addition of migrating birds and water fowl as a VEC.

Due to amendments to the *CEAA* in 2010 there was an additional period of public comment posted on the federal website from July 20, to July 29, 2010. No one submitted comments during this period. Once the RAs published the final *Project Specific Guidelines Scoping Document for the Proposed Millennium Mine Project* Cameco received the green light to begin the EIA on the condition that they address all the requirements outlined in the scoping document.

Figure 3.4 Scoping Millennium Project



Saskatchewan Decision Arena 3: Final Approval

During this final key decision arena the provincial RA hands over its final report and recommendations to the provincial government. Five resources are present in this key

decision arena (see Figure 3.5): financial capacity, scientific knowledge, legislative authority, formal communication, and public opinion. Actors' use of these resources resulted province determining that the project had no significant environmental effect and it could move forward on the condition that an environmental monitoring program would be put in place (see Figure 3.5).

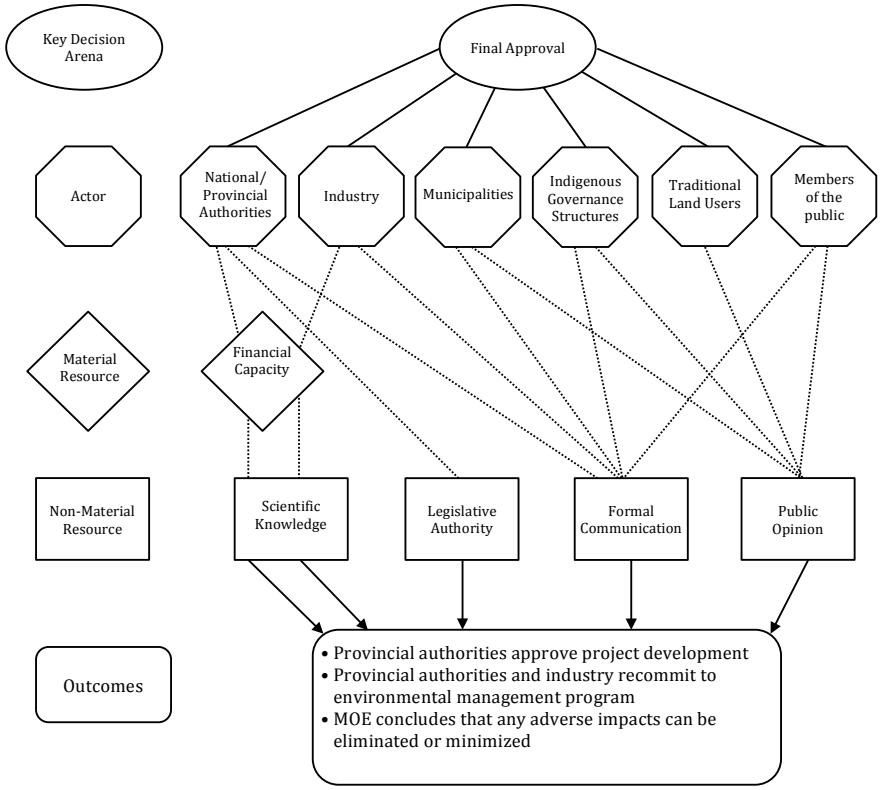
There were several draft iterations of the Millennium EIS reviewed by expert panels at the provincial and federal level prior to industry submitting a final copy (CNSC Staff 2015). The Saskatchewan MoE determined that Cameco met the requirements under *Saskatchewan's Environmental Assessment Act* and approved the development pending the appropriate permits and federal approval. In a public statement regarding the reasons for the ministerial approval the provincial Minister of the Environment at the time, Ken Chevaldayoff, stated that Cameco had adequately addressed the questions and concerns of local stakeholders in the EIS, that the Crown had fulfilled its duty to consult and that there were no infringements on Aboriginal Treaty Rights.

The Ministry considered the EIS, the technical review comments by provincial ministries and agencies and public comments when making the final decision regarding the EIA. There were three comments submitted by members of the public, one by the Saskatchewan Environmental Society and two by individuals. The Ministry considered two comments to be outside the scope of the EIA because they concerned the Key Lake operation; the third comment which concerned groundwater, decommissioning, the effect of treated water discharge, and the monitoring of northern foods was addressed by the proponent in the EIS. Additionally, the Ministry addressed the comment stating that an

environmental management program, approved by the ministry, would oversee the proper implementation of mitigation measures.

The federal government put the Millennium EIA on hold at the request of Cameco, due to the inability for the company to move the project forward at current commodity prices.[2] Thus the federal government has not yet given a final determination on the project.

Figure 3.5 Final Approval Millennium Project



[2] Uranium prices fell from a spot price of 69.5US$/barrel in 2009 when the EIA process started to a long-term price of 45.5. US$/barrel in 2014 when the project was shelved. As of November 2015 the long-term price is 44 US$/barrel.

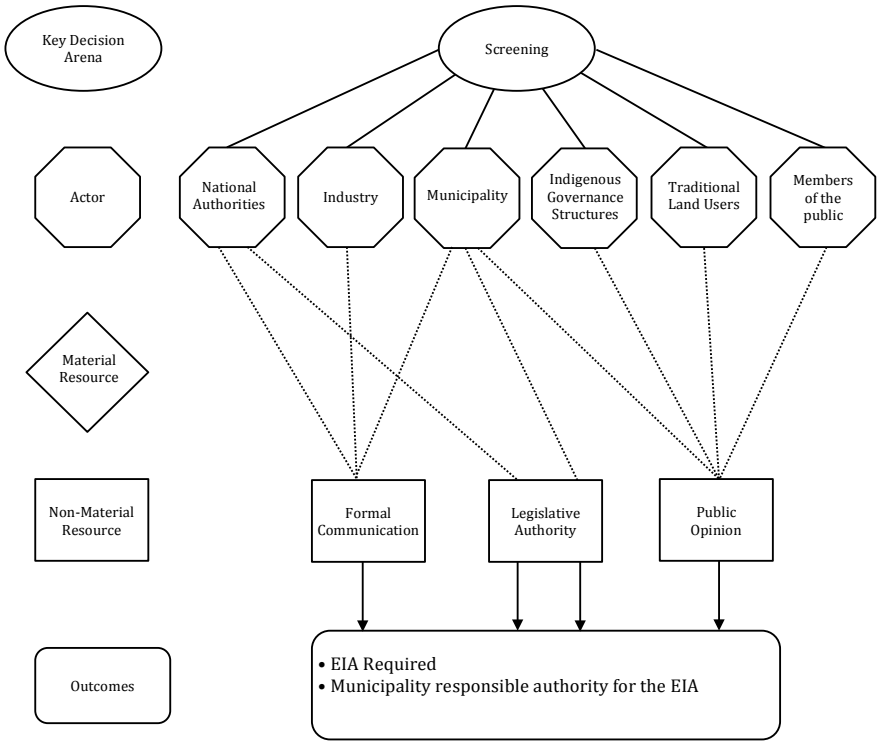
Norway Key Decision Arena: Screening

This key decision arena starts with Nussir triggering the EIA process and ends with appointing the municipality as the primary RA for the mine's EIA. Three resources are in this key decision arena (see Figure 3.6): formal communication, legislative authority, and public opinion. Actors used these resources to influence the proceedings resulting in the requirement for Nussir to complete the assessment process and the appointment of the municipality as RA (see Figure 3.6).

Nussir's proposed mining development triggered the EIA process under several clauses of the *Planning and Building Act (2009)*, including but not limited to having a surface area exceeding 200 acres, being located in an area important for the practice of outdoor activities, potential impact on reindeer herding, a threat to endangered habits species and/or biodiversity, increase in peoples exposure to noise/air pollution, and potential significant increases in greenhouse gases. Under this act when a proposed project exceeds the 200 acres threshold the municipality can request that the Directorate of Mineral Management act as the RA for the EIA on the behalf of the municipality. In the case of Nussir the municipality chose to be the RA for the EIA.

The EIA was legally required regardless of public opinion, however there was broad support from Sami Parliament, reindeer herders, Nussir, and members of the public for the project undergoing an EIA. There were no indications that the aforementioned actors had a preference regarding the choice of RA.

Figure 3.6 Screening Nussir Project



Norway Key Decision Arena 2: Scoping

In this key decision arena practitioners determined the scope of the assessment and had it approved by the municipality. Thee are seven key resources in this decision arena (see Figure 3.7): financial capacity, scientific knowledge, legislative authority, formal communication, informal communication, legal rights and public opinion. Actors' use of these resources (see Figure 3.7) resulted in the final scoping plan addressing some of the concerns stakeholders made during public consultation.

In Northern Norway, there are three major steps in the scoping process: submitting a proposal for a study program; a period of public comment and revision; final revisions and approval of the final draft of the program by the RA. Scoping is a

requirement of the *Planning and Building Act* and the RA must approve the plan before the assessment process can proceed.

Sweco, a third party contractor also hired for the impact assessment portion of the EIA, drafted the proposal for a study programme. This is a common practice in Norway and the company must obtain a general consensus from stakeholders on the hiring of the third party before the project can continue. Sweco is responsible for collecting all the necessary technical data required for the proposal. The proponent, Nussir, is responsible for funding the work completed by Sweco.

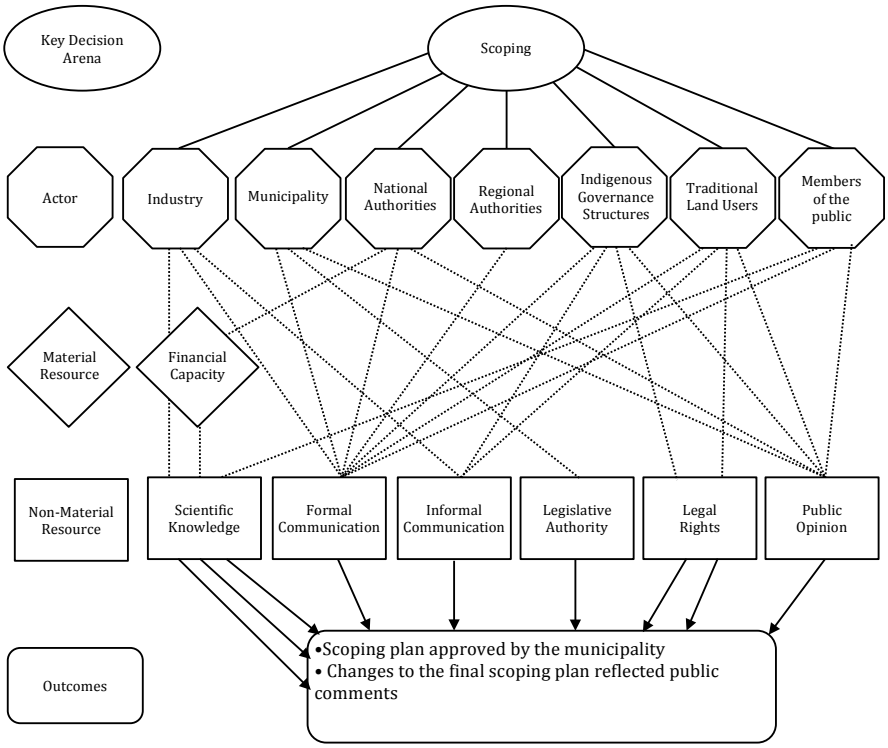
There were 27 submissions of input for the plan made by the municipality, Sami Parliament, traditional land users, and members of the public in the three-month period between Sweco's first submission of the scoping plan and the final plan approved by the municipality. Additionally, The Office of the Governor of Finnmark submitted a comment prior to the first draft. Many of the comments from local/regional organizations criticized the technical and methodological aspects of the proposed scientific studies. Sami Parliament and the reindeer herding associations asserted their rights to cultural practices and heritage in their comments. The final scoping plan addressed each comment individually. There were changes to many sections between the first and final scoping plan, including spatial boundaries, biophysical data, and socioeconomic issues. These changes correlated with stakeholders concerns.

Sami Parliament and the reindeer herding districts were in contact with Nussir over issues that were of a concern to them during this period of time. During the scoping period there was considerable discourse in the media on how to achieve a balance between reindeer herding interests and mining. Nussir's proposed project was a divisive

issue among members of the public and in early May 2010 local/regional organizations that opposed the project gathered 221 petition signatures to try and stop the project moving forward (Koivurova *et al.* 2015). In response to concerns raised during the scoping phase Nussir invited interested individuals to join a 'resource group' to further discuss these issues (Koivurova *et al.* 2015).

On June 30th, 2010 Sweco submitted the final scoping plan for Nussir's mining development. The Kvalsund municipal councillors unanimously approved the plan on July 20th, 2010.

Figure 3.7 Scoping Nussir Project



Norway Key Decision 3: Final Approval

This key decisions arena was a two-year long process that included the final approval of the zoning plan and eventually the go ahead from the Norwegian government to start

development of the mine. Seven different resources, financial capacity, scientific knowledge, legislative authority, formal communication, informal communication, legal rights and public opinion (see Figure 3.8) influenced the aforementioned outcomes.

Sweco coordinated the execution of the EIA on the behalf of Nussir. They conducted part of the assessment independently (landscape and outdoors activities; traffic); however, private companies, non-profit organizations, Finnmark County and Sami Parliament (see Appendix 5) executed the majority of the assessments.
Once the EIA studies were completed Sweco incorporated them into the final zoning plan and submitted the plan for a period of public review and public hearings. Members of the public, traditional lands users, Sami Parliament, regional authorities and the municipality submitted 32 comments during this period. Nussir responded to some of the comments by providing additional information regarding the deposits of tailings into the fjord.

Sami Parliament and the reindeer herding associations issued formal objections to the zoning plan due to the impacts on reindeer herding (Koivurova *et al.* 2015). Sami Parliament also expressed concerns regarding the impacts of the project on cultural heritage sites. Despite these objections, the community at large was accepting of the mining project and the municipal council approved the zoning plan with a 7 to 1 vote in October 2012 (Koivurova *et al.* 2015).

Objections over reindeer husbandry interests by legally empowered groups, notably Sami Parliament and the reindeer herding associations, forced the County Governor of Finnmark to send the case to mediation (Koivurova *et al*. 2015). Mediation between the proponent and reindeer herders at the county level was unsuccessful forcing national authorities to handle the issue and make the final decision regarding the zoning

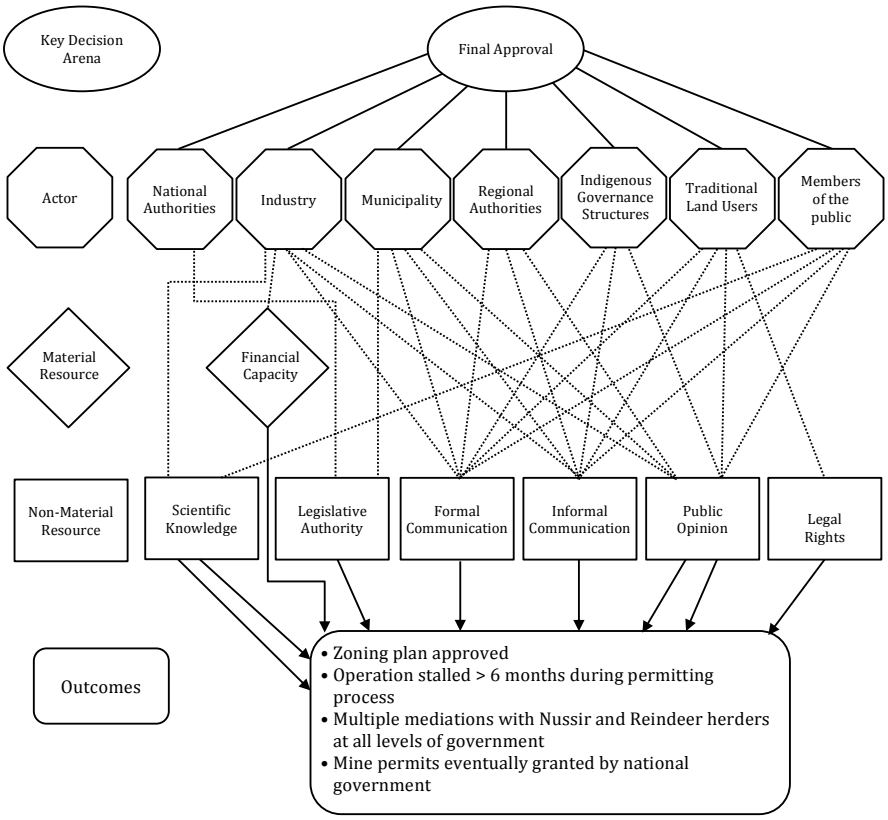
plan. The MoE was initially responsible for making the decision regarding the zoning plan but due government restructuring after the national election in 2013 the responsibility for making the decision moved to the Ministry of Local Government (Koivurova *et al.* 2015). The ministry overruled the objections regarding reindeer husbandry impacts and approved the zoning plan in March 2014 (Koivurova *et al.* 2015). The document analysis indicated that the authorities recognized that there would be impacts to reindeer herding but considered the economic benefits of the project to outweigh the consequences.

Despite the approval for a zoning plan in the spring of 2014 the development of the mine did not start immediately because the Norwegian government delayed the permitting process due to questions regarding the impacts of the proposed tailing deposits (Bjercke 2014). During the period of public debate there was a considerable amount of criticism over the modelling and measuring methodology used during the assessment of the impacts of marine sea tailings (Koivurova *et al.* 2015). The Directorate of Fisheries submitted a formal objection to the project regarding the tailing issue but missed the deadline for consideration in the final municipal vote (Koivurova *et al,* 2015). Mounting public pressure over the impacts of the tailings in addition to the objection from the Directorate of Fisheries forced the MoE to commission two additional studies on the methodology used in the assessment after the zoning plan approval but before the Ministry approved the tailings permit (Koivurova *et al.* 2015).

Nussir responded to the concerns regarding the tailings, however the government continued to delay, reasons unknown, and the permitting process. Local advocates for the mine claimed they were ‘victims of political games’ (Klo and Trellevik 2015) . Frank

Bakke-Jensen, a conservative Member of Parliament for Finnmark, in an interview with the media admitted "Finally, it ends up [being] a political decision" (Horntvedt 2015). In December 2015, more than a year and a half-later, the Norwegian government granted the final permits. Unfortunately, by the time the government approved the project copper prices had dropped 30%. Unless there are substantial positive changes in the market this delay will negatively impact the financial outcomes for the community and developer.

Figure 3.8 Final Approval Nussir Project



3.6 Conclusion

Although neither mine is currently in operation both project's EIAs lead to a ministerial approval[3] for the mining development. It is evident that in both cases local level actors were active participants in the process and were able, to a degree, to influence the process. However their roles and their access to resources was not the same. The following chapter discusses the political structures that could have influenced this access and in turn impacted actors ability to influence the process.

[3] Millennium will also require federal approval if Cameco decides to proceed with the project

CHAPTER 4: ANALYSIS OF POWER DYNAMICS IN KEY DECISION ARENAS

4.1 Introduction

In this chapter, I use structuration theory to analyze how power dynamics impacted actors' use of resources in key decision arenas. By comparing and contrasting the information collected in each case study I will draw inferences on the links between macro political structures (see Table 4.1) and the micro politics of EIAs. The most striking differences are between municipalities, indigenous governance structures, and traditional land users. Indigenous land rights and the delegation of authority are the two major macro political structures that influenced the role, agency and power of actors in the EIA. The following section presents how these macro dynamics potentially impacted the on the ground process of the EIAs.

4.2 Municipalities

Local level governments are vital units of government in today's Western democracies. They administer important everyday services and offer opportunities for citizens to participate in political life. The reach of a local government's jurisdictional powers differs state-to-state depending on whether a given state centralizes or decentralizes power. The terms centralization and decentralization refer to the degree of powers, responsibilities, and freedoms a sub-national government has relative to the state (UCLG and The World Bank 2008). Globally, particularly in Western societies such as Norway and Canada, there is a trend towards increasing decentralization (Karlsen 1999; UCLG and World Bank 2008).

Table 4.1 Political Structures in Canada and Norway

	Canada	Norway
Government system	• Federal parliamentary system • Constitutional monarchy	• Unitary parliamentary system • Constitutional monarchy
Judicial system	• Common law (except Quebec)	• Civil law
Indigenous rights and governance	• Broad constitutional rights (duty to consult) • Signed treaties with the Crown • Self-governance through a band system	• Constitutional recognition • Special rights for reindeer husbandry; • Self-governance, but not land based self-government, through Sami parliament • 50% of board members for the Finnmark Estate elected by Sami parliament
Regional governance	• Division of powers between federal and provincial governments • Authority to municipalities delegated by the provinces • Municipal governance ◆ Limited powers (pass by-laws and control property taxes)	• Regional and local Authority delegated by the State • Regional governance: Finnmark Estate ◆ Owns and manages 95% land in Finnmark • Municipal governance ◆ Powers include: passing by laws, property tax, primary education, social services, economic and land use planning
Land and Mineral Rights	• Surface rights private or Government owned • Mineral rights owned by the province (with a few exceptions) • Resource management provincial jurisdiction	• Surface rights private or Finnmark Estate • Mineral rights owned by the state (with a few exceptions) • Resource management state jurisdiction with delegated responsibilities to Finnmark Estate and municipalities

In Canada, decentralization generally refers to the relationship between the federal government and the provinces (Mintz, Dunn, and Tossutti 2010; Jackson and

Jackson 2005). The current political trend favours decentralization and, consequently, provinces powers have increased over the last six decades (Jackson and Jackson 2005). This tendency towards decentralization is not, however, equally reflected in the relationships between municipalities and provinces. Municipal governments in Northern Saskatchewan, as with all municipal governments in the province, are under the jurisdiction of the province and while there has been more devolution[1] of powers over time to municipalities (UCLG and The World Bank 2008), their autonomy remains limited particularly in the North were municipalities are small (Garcea 2005). A lack of financial and human resources further strains this autonomy leaving municipalities strapped to manage what few responsibilities they do have (Garcea 2005).

By contrast, social democratic welfare states, such as Norway, have the most decentralized forms of governance among western democratic states, allocating substantial power to local-level governments (Sellers and Lindström 2007). Municipalities in Norway, which is a form of local governance that has the geographical spread comparable to that of counties in Canada, have considerable authority over important jurisdictional issues such education and resource management. The financial and human resource capacity of municipalities is also relatively high (Sellers and Lindström 2007; UCLG and The World Bank 2008).

In order to compare the extent of decentralization in the case studies I turned to a study by Sellers and Lindström (2007). This study developed a systematic index to quantify the extent decentralization experienced by local governments in several countries. It quantified local government capacities by examining fiscal and political

[1] Devolution is defined in this thesis as the transfer of power from a central form of governance to a more localized one

administration capacities. Sellers and Lindström (2007) scored countries on a 0 – 2 scale where 2 represents that highest form of decentralization and the greatest local government capacities Norway scores at 1.30 and Canada at 0.42.[2] This study supports the qualitative findings in this thesis that suggest Norwegian local governments have more political authority than local governments in Northern Saskatchewan.

In the case studies, there was a correlation between autonomy and power at the macro political level and the extent of stakeholder influence and participation in the EIAs. In both case studies, local level governments had the opportunity to participate in the key decision arenas areas in each EIA. However, their designated roles were very different. In Northern Saskatchewan local governments had a similar role to any other public stakeholder in the process. In Norway the municipality had an administrative role comparable to that of the province in the Millennium EIA.

The Saskatchewan/Canadian EIA regulations consider municipalities to be 'persons' (Government of Saskatchewan 2013) or 'interested parties'[3] (Government of Canada 2012). In accordance to EA laws in Canada, public consultation in the EIA case focussed on municipalities whom Cameco, in consultation with the provincial and federal authorities, considered at risk for bearing the brunt of the impacts from the development (Cameco 2013). Cameco did, however, consult with municipalities other than Patuanak and Pinehouse. These communities expressed interest in the project, however from a legal perspective the proponent was not required to consult with them (Cameco 2013).

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[2] In the study of 21 Western democratic states Sweden scores the highest for local government capacities at 1.99 and Australia the lowest at 0.3 (Sellers and Lidstrom 2007).

[3] 'Interested parties' are designated at the discretion of the federal RA and are considered any persons affected by the project proposal (Government of Canada 2012).

Cameco consulted with municipal leaders and residents through private meetings and public events (Cameco 2013, CNSC Staff 2015).

The municipalities, unlike aboriginal groups, did not receive external funding[4] to assist them in the EIA process nor did they submit comments during the Crown's period of public comment (Cameco 2013). It is unknown as to whether this was due to a lack of funding, capacity, agency and/or if the majority aboriginal population felt like their indigenous governance structures were appropriately addressing their concerns. Municipalities were also not in control of overseeing the process, determining whether the quality of the EIS was adequate, or if the project would move forward (CNSC 2015; Government of Canada 2012, Government of Saskatchewan 2013).

In Northern Norway, municipalities play a large role in local and regional planning. In accordance with the *Mining Act*, during the screening process the municipality has the legal authority to choose whether they would be responsible for coordinating the EIA or if they will delegate that role to the national authorities. In this case, the municipality chose to oversee the process. This choice gave the municipality the responsibility of overseeing public and technical comments during the scoping phase and approving the scoping plan. The municipality also reviewed EA documents and could request altercations or additional assessments. It also allowed the municipality to control how and when the EIA process would move forward. However, despite having the authority to approve proponent's zoning plan and vote in favour of the mining operation, the final approval of the zoning plan moved to the national level because of objections over impacts to reindeer herding. Do to public and official concerns over the deposition

[4] Under participation funding rules for federal EIAs municipalities do not qualify for funding

of tailing in the 'virgin' fjord authorities requested additional assessments and delayed the project for several months at the permitting phase. Thus, although the municipality did play a larger role in the EIA process than its Saskatchewan counterparts, at the end of the day the state could still limit the municipality's influence.

The striking difference between the roles of municipal level governance in EIA in each country, one whose role is akin to the general public's and the other who has the opportunity to be a RA, is strongly correlated with the level of decentralization in each country. Decentralization impacts the level of delegated authority and local governance capacity and this in turn affects the ability of municipalities to influence and participate in EIAs. For example, the type of legal instruments that govern EIA in each country tightly controls the extent of delegated authority given to municipalities in the process. In Canada, EIA legislations are independent acts enacted at the provincial and federal level. These legal documents designate provincial and federal bodies as RAs in EIAs. In Norway, however, EIA legislation falls under broader acts such as the *Planning and Building Act* or the *Petroleum Act* (NORAD 2003). The *Planning and Building Act* designates municipalities as the planning authority over municipal zoning plans, which mining projects generally fall under. The most significant observed impacts of the different power dynamic in each case study was the control in determining the outcome of the project – where the Norwegian municipality has potential political veto and NAD communities do not.

The different roles of the municipalities did not appear to significantly impact the content of the impact assessment regarding local governance issues. Both EIAs heavily focussed on the impacts on the local economy including services and infrastructure –

especially roads and traffic. Neither impact assessments addressed social issues[5], such as substance abuse and violence against women, despite their association with the mining industry even in developed countries (Shandro et al. 2011; Barton 2002). This omission is likely because EIA legislations do not explicitly cover these issues and there was a lack of public pressure to address them.

Differences between the two studies regarding local issues, such as human health – where the Cameco study was more extensive, is likely associated with external factors such as a greater concern, whether real or perceived, of the health impacts of uranium mining versus copper.

When discussing the role of municipalities it is important to acknowledge that the geographic scope of the EA with regards to local governance issues was significantly different. The scope of Cameco's assessment covered a much larger region and included two municipalities: Patuanak (220 km from the mine) and Pinehouse (230 km from the mine) – the two are 195 km apart from each other by road (Cameco 2013). The scope of Nussir's assessment regarding local governance issues only included the communities within the jurisdiction of Kvalsund municipality (Sweco 2011; Espiritu 2015). Nearby municipalities such as Hammerfest, only 30 km by road and a popular municipality to commute to for work (Espiritu 2015) were not within the scope of the assessment (Sweco 2011).

There are several likely reasons for this staggering difference in scope, notably proximity - there are no municipalities within 100 km of the Cameco's proposed project.

[5] The issue of community well-being and violence was brought up by an individual during the period of public comment for the scoping guideline and was considered outside the scope of the EIA by the RAs (Cameco 2013).

And the nature of the project – Cameco is a remote fly-in-fly out site versus Nussir, which is within commuting distance for residents of Kvalsund. Additionally, EIA legislation in Canada offers more flexibility is determining the scope of socioeconomic impacts because practitioners determine the geographic extent of the assessment based on the projects impacts on VECs (Noble 2015; Hanna 2009).

In contrast, in Norway socioeconomic impacts are primarily assessed based on the jurisdiction in which the project is being assessed. In the Nussir case this meant that nearby communities, such as Hammerfest, who would likely be affected by the mine from a socioeconomic perspective, were largely left out of the assessment process due to administrative boundaries. Although, the difference in geographic extent of the EA is significant it is essential to understand the sociocultural conception of space and distance is different in each region.

In both cases, the developer was keen to engage with the municipality early on in the process and in a manner that goes above and beyond legal requirements. It is important to consider that obtaining the 'social license' to operate in both countries often requires exceeding legal standards (Cameco 2015; Espiritu 2015). This suggests that social structures, in addition to legal structures, and in the case of the Norway the devolution of powers to the municipality, enabled such a dynamic and allowed municipalities to have their concerns addressed early on in the process.

However, a quick examination of other projects, the Golden Heart Gold Mine project in Northern Saskatchewan and Artic Gold's project in Kautokeino, Finnmark, reveals that the same level of engagement with municipalities was not present (ASKI

2011;Espiritu 2015)[6]. This indicates that agency, in this case on the part of the developer, played an important part in the politics of the EIA process. Thus, both agency and structure shape power dynamics in the EIA process.

4.3 Indigenous Governance Structures

Indigenous peoples in both Northern Saskatchewan and Northern Norway had systems of governance in place long before the onset of colonization. Over the years, whether 300 years in Saskatchewan or 1000 in Norway, settlers severely disrupted local indigenous peoples traditional, including political, way of life. Today modern forms of indigenous governance in each region, for various historical and cultural reasons that this thesis will not delve into, are very different.

First Nations people in Northern Saskatchewan, the Dene and the Cree, elect band governments – there are 11 First Nation bands in NAD. These bands govern legally protected 'reserve lands' were their members live. Systems of regional indigenous governance, such as the Prince Albert Grand Council (PAGC), also play an important part in the political organization of First Nations people in Northern Saskatchewan. They are, however, from a legal perspective an organization *not* a govment and therefor do not have any delegated authority from the Crown. The Métis also have a form of local governance[7] known as 'Locals', similarly to the PAGC they are organizations rather than political institutions (Madden, Graham, and Wilson 2005).

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[6] Golden Heart Gold Mine was approved to proceed by RAs (Government of Saskatchewan 2012). Artic's Gold's project was rejected by the municipality (Espiritu 2012).

[7] The Métis also have a regional governance system but on the provincial level

The main form of indigenous governance system in Norway is the Sami Parliament. The Sami Parliament founded in 1989 with the signing of the *Sami Act*, replaced the Norwegian Sami council established in 1964. The act delegates powers concerning cultural issues, such as the development of Sami languages, over to Sami parliament. The Sami Parliament is also very active in negotiating and advocating for issues of concern to the Sami people such as mining.

4.3.1 Indigenous Governance Structures and Decentralization

There was also a correlation between decentralization and actors' power in the EIA process with regards to indigenous governance structures. In the Millennium case, similarly to the municipalities, indigenous governance structures had a participatory role in the consultation element of the EIA process. In fact, with the exception of a meeting with ERFN leadership, the adjoining northern hamlet of Patuanak and the ERFN community appear to have had identical access to community consultation with Cameco. This is expected. All residents of the hamlet identify as First Nations (StatsCan 2012). There appeared to be more consultation with the EFRN/Patuanak communities compared to Pinehouse, which is majority Métis. However, one can draw no inference from this. Cameco consulted ERFN/Patuanak because the proposed project is on their traditional land (Cameco 2013). They consulted with Pinehouse because they wanted to build a road for the mine that would pass through the community (Cameco 2013).

There was no indication in the public records that members from Pinehouse thought that the balance was unfair. One individual from ERFN/Patuanak was concerned that consultation with other communities, including Pinehouse, could be used as political leverage to push the project through since these communities were supportive of

Cameco's activities. However, there is no indication of such a political motive on the behalf of the developer (Cameco 2013) and since the majority of ERFN/Patuanak approved of the project there is no way of knowing whether such a dynamic would impact the outcome of the EIA or the project.

Regarding the role of aboriginal involvement in the EIA process, the PAGC offered the following insight during the period of public consultation during the scoping process.

> "Unfortunately the proposed EA process takes a more "traditional" view of aboriginal involvement and input the participation of Aboriginal people is viewed more as an add-on or a sub-component to the EA process rather then an integral part of the system. While this approach is regrettable, we do not believe that it precludes us from raising any issues or concerns. It only makes it more difficult for the proponent and the regulators to incorporate our thoughts." (Cameco 2013: Appendix 1.1, Addendum D. p.1-2).

Similarly, to the First Nation bands the Sami Parliament also had a participatory role in the EIA. The developer engaged early on with the Sami parliament and even achieved a preliminary agreement (Espiritu 2015). However the relationship appeared to dissolve as concerns over the deposits of tailings and landfill grew in addition to concerns over reindeer herding. The Sami Parliament's opposition to the *Mining Act* lead to a political push to oppose all mining developments in traditional Sami territory until the act was changed (Fjellheim 2015). It appears that in this case larger political goals may have degraded the opportunity for a more constructive engagement throughout the EIA. Additionally, the role of the Sami Parliament further supports the idea that the degree of political decentralization between governance bodies affects stakeholder's role on the ground, as they did not have near the influence or authority of the municipality in the process.

The impact of indigenous rights was also a factor impacting the role of Sami Parliament. During the assessment process itself the Sami Parliament was responsible for submitting a cultural heritage impact assessment[8] statement to both Sweco, the consulting company responsible for completing the zoning plan, and the Municipality. The impact of cultural heritage sites was also one of two major issues, the second being reindeer herding, that the Sami Parliament has been using to try and stop the proposed mining project (Brenli 2013). The Sami's Parliament's concern over the landfill and its impacts on cultural heritage both during the assessment and during the review process forced much discussion on the subject and whether there were any adequate alternatives that could be found.

Sami Parliaments advocacy over culture heritage issues and its ability to influence how other parties viewed the subject speaks to Sami Parliament's legal authority over the subject, which was a result of the delegation of powers from the Norwegian parliament. It is also a testament to their technical capacity to be able to tackle the subject. There was no comparable situation in the Millennium EIA. The topic was assessed and discussed with First Nations people but no cultural heritage sites considered at risk (Cameco 2013).

4.3.2 Land Rights

The delegation of political powers was not the only macro political structure that impacted the power dynamics of indigenous stakeholders in EIA. Land rights also played an important role. Nowhere is this more striking than public consultation with ERFN.

[8] The impact assessment reviewed the two other culture heritage impact assessments that were conducted and included remarks of support, disagreement and some supplemental information. Sami Parliament was remunerated for this work.

Cameco consulted with ERFN leadership and the community on several occasions throughout the EIA. The proponent recorded and cross-referenced questions and concerns during public meetings, and in some cases private meetings, with the appropriate section of the EIS (Cameco 2013). Cameco also hired an external consultant whose role according to Cameco was "to go into the communities and collect information by talking with leaderships and local lands users through conducting key person interviews." (Cameco 2013:797). The communities concerns for a local trapper influenced Cameco to add him as a VEC and meet with him one-on-one (Cameco 2013). Additionally, there was a correlation between comments made by ERFN and the inclusion of migratory birds and waterfowl, and air quality in the final scoping document.

In a community meeting with ERFN/Patuanak, Cameco stated "treaty rights are a focus of the environmental assessment" and "we've have responded to the pressure from your community to protect the environment" (Cameco 2013, Appendix 5.2: 33). An example of this was rerouting a pipeline to Moon Lake instead of Slush Lake because although more expensive for the developer, there would have less environmental impacts on the community (Cameco 2013).

During the EIA, Cameco did not consult to the same extent, other First Nations who from a geographical perspective were closer to project site. A record of public meetings[9] conducted by Cameco for the EIA includes two other communities (LLRIB and Canoe Lake) to the south of the project in addition to Pinehouse and ERFN/Patuanak but none to the North. There was indication of private consultation with key members in

[9] Public meetings are considered a means of formal communication because questions and comments are recorded for the public record and could be used in a judicial setting.

the communities further North however there was no broad public consultation specifically addressing the Millennium project (Cameco 2013).

In addition to less consultation the SIA portion of the EIS did not include these communities in any detail. Cameco's reasoning for this exclusion was that they had identified Pinehouse and ERFN/Patuanak as "priority recruitment communities" and "the communities have historic and current land use connections to the area" (Cameco 2013: 9-4). Land use and treaty rights were the key indicators given by the RAs in the scoping guideline document in regards to assessing the impacts on First Nations and Metis (Cameco 2013).

During the period of public comment an individual brought up the concern that northern communities who were geographically closer to the site (Wollaston Lake, Hatchet Lake, and Fond du Lac) were not going to be included in the socioeconomic impact assessment (Cameco 2013). The response of the RAs was to update the scoping document so that Cameco had to include the rational for the inclusion of certain communities in the EIS (Cameco 2013). There was, however, no request that the proponent give a rational for the exclusion of nearby communities.

An additional major difference between municipalities and indigenous governance structures in the Millennium case study is that indigenous governance structures qualified for funding for the EIA. Supporting aboriginal engagement in EIAs through funding is important because communication with aboriginal peoples is a key component of *CEAA, 2012* and essential for the Crown to meet its legal duty to consult. The duty to consult, the obligation to communicate with aboriginal peoples in the *CEAA, 2012*, and indigenous land rights are all closely

intertwined. There was a correlation between funding and participation in submitting formal comments albeit there was an obligation when receiving the funding to submit comments.

Thus, treaty rights and traditional land rights were clearly major factors not only in consultation with communities but also assessing the impacts of the project. Both Cameco and the RAs mention treaty rights and the duty to consult as important drivers for focussing on Patuanak/ERFN and Pinehouse (Cameco 2013). This further supports the significance of the duty to consult on the role and influence of indigenous communities in resource development projects.

Agency was also a critical factor in the ability of aboriginal communities to influence the process. Cameco cross-referenced every comment during post-project description public engagement meetings with the relevant information in the EIS and the Crown did the same for comments regarding the scoping document (Cameco 2013). In some cases, comments, such as the request to add VECs, were directly correlated with changes in the EIS (Cameco 2013) for example in a meeting with the SCEQC (June 2010) an individual asked the following "Are wolves considered as an animal that should be added to the VECs list?" (Cameco 2013; Appendix 5.2: 9). In the EIS, Cameco stated, "Wolf was added as a valued ecological component through the community engagement." (Cameco 2013; Appendix 5.2: 9). Meetings held post-scoping process were more informative in nature than responsive. Cameco simply answered questions concerning the project. There was minimal desire, on the part of both parties, to make changes to the assessment at that point.

In order to influence the process members of these communities not only had to have enough grasp of the subject matter to ask relevant questions during public meetings but many also had to actively request to have a meeting in the first place. The meeting with the Canoe Lake community during the EIA was the result of a direct request from the community to the RA (Cameco 2013). The RAs did notify aboriginal groups with a potential interest - it is not clear who these groups were nor what the criteria for 'potential interest' was - during the scoping process and communities did have the opportunity to request a meeting.

Agency was a critical component for effective community participation and influence in the EIA. The proponent only addressed concerns that the community expressed, for example Cameco included Slush Lake in the environmental baseline after ERFN had request it. Not all communities participated in this process and thus not all communities influenced the scope of the assessment. Of the six aboriginal organizations granted funding for the EIA by the Crown only three responded during the period of public comment for the scoping document. LLRIB also responded despite not having funding.

There are several reasons why certain aboriginal organizations chose not to request community meetings or participate during periods of public comment. Information collected during the field trip up North, an interview (Carriere 2015) and a review of the literature (Booth and Skelton 2011; Chadwick 2013; O'Faircheallaigh 2007) suggests that capacity, not just financial but also on a human resources/education front, limits small First Nations communities. Bands are inundated with requests and notifications and do not have the time or the means to actively engage in every process.

During the Millennium EIA, community members expressed concern that language barriers and communication, particularly in regards to technical jargon, were preventing them from being more engaged in the process (Cameco 2013). There were attempts on the part of the developer to try and reduce the former barriers, however they were still present (Cameco 2013).

This dynamic is the perfect example of Giddens's observations on the dualism of structure and agency. We can see here that there are opportunities for agency and it plays an important part influencing the process but at the same time structural factors such as culture (in regards to language) and the result macro political relationships between the Crown and First Nations communities (in regards to capacity) is limiting agency. In return the active engagement and leadership of individual agents can in part, overcome these structural barriers.

In Norway, the Sami people do not have comparable rights in regards to their traditional lands. This appeared to impact their level of influence on the EIA. According to the Sami Parliament, the proponent and RA mostly disregarded their vocal objections over the impacts of the project on reindeer herding (Solaas 2015; Brenli 2013) .The EIA did consider the impacts of reindeer herder and the issue was sent to mediation at the national-level even after the assessment was complete, however the dialogue remained almost exclusively between the reindeer herding associations, the proponent, and the RA. The Sami Parliament despite its keen interest was left on the side lines (Johnsen 2014; Magga 2015; Fjellheim 2015). This is not a surprise considering active reindeer herders have land rights independent of the general Sami population (Ulvevadet 2008).

In comparison, in Canada and thus in Saskatchewan, aboriginal people have rights to traditional resources on their traditional territory even if they are not actively using that land or territory and thus the preservation of those resources for future generation was a key factor in the assessment process (Cameco 2013). Cameco consulted with both community members and the traditional land user over issues concerning traditional land use (Cameco 2013). This did not appear to be the case in Norway. In these two cases there was a correlation between the political structure of land rights and the influence of indigenous governance structures in the EIA process.

The EIA in the Norwegian case did considerer traditional land use issues (Nussir 2012), however Sami Parliament as an indigenous governance structure had more difficulty influencing how the process was handling the issue than the indigenous governance structures in the Saskatchewan case. The lack of land rights as a resource through which to exercise power is especially important with regards to mining because the industry is inherently very disruptive to large portions of land. EIAs that have a demonstrated a significant disturbance to indigenous land rights, particularly in Canada, have in some cases not made it through the approval process (YESAB 2014; Werring 2010; Lambrecht 2013).

4.3.3 Conclusion

The similarities of the role of indigenous governance bodies had in both cases further supports the findings from the section on municipalities that concluded that the devolution of powers from national/provincial governments has a major impact on the role of stakeholders in the EIA process. There was a correlation between the degree of influence of the indigenous governance systems and the difference in traditional land

right in each country. Agency, particularly in the Canadian case, was also a factor in this regard.

4.4 Traditional Land Users

The influence of traditional land users on the EIA in each case was also different particularly relative to their indigenous governance structure counterpart. In the Millennium case, the EIA included the traditional land user due to community input during public consultation (Cameco 2013). Cameco, along with input from the community, identified to a single traditional land user within the boundaries of the EIA (Cameco 2013). Cameco privately consulted with the trapper twice during the assessment process to insure that there would be minimum impacts on his use of the land (Cameco 2013). Although the proponent gave individualized attention a single traditional land user this user had the same access to resources - land rights, informal and formal communication – to exert influence as local aboriginal governments.

In the case of Norway there was a significant difference in power and influence between the Sami Parliament and reindeer herding associations (traditional land users). The Sami government was able to influence the process both through public consultation and by conducting part of an EA study on cultural heritage. Reindeer herders however had more influence in the process and disagreements between reindeer herders and the proponent pushed the approval of the EIA and zoning plan to the national level for forced mediation. The Sami parliament, despite disagreeing with the plan, was not successful in having authorities intervene on their behalf.

In this study, the legal structures surrounding land rights are correlated with the difference in power relationships between traditional land users and indigenous

governance structures. In Canada indigenous land rights are more inclusive than in Norway were reindeer herders have separate rights from the general Sami population. It is through these rights that reindeer herders (which represent roughly 10% of the Sami population) were able to exert more influence on the EIA process than Sami parliament.

4.5 Conclusions

Similarities between the case studies also suggest that sovereignty and associated legal authority impacted the micro politics of EIA. In both countries national/provincial authorities had a major influence on the final outcome of the project. At the end of the day the fate of the project required approval from national/provincial authorities. These authorities not only had regulatory authority, although in the case of Norway the state delegated it to the municipality, over the EIA process they were also responsible for authorizing operating permits. EIA results are a major factor in getting permits approved but, as the Norwegian case demonstrated, they are not the only factor. The level of government influence over the final point of the EA process is reflective of constitutional authority.

There were also notable similarities with the power of members of the public in the process. In both cases, members of the public expressed concerns during periods of public comment, which proponents were required to address. There was also the opportunity to provide technical scientific knowledge, which is also a resource that influences EIA, this was accomplished through private companies and non-profit community organizations that played a role in providing data for the EA. Members of the public also utilized the sway of public opinion to influence the governments' approval on

the project. This was evident in the Nussir case where public outcry over tailings being deposited into virgin fjords is correlated with the government's delays.

Neoliberalism also likely impacts the process by creating a role for private groups to influence the EIA process by providing technical data. The opportunity for the public to influence the process through public opinion is reflective of democratic western culture were there is freedom of the press and the public holds governments accountable for their decisions through the electoral system.

Evidence collected in these case studies demonstrated that political structures are a major factor in determining the power dynamics within EIA. However agency also had a role to play. Actors can only use resource if they, as individuals, choose to act. What determines an actors' agency includes a variety of motivational factors, which this study did not examine. There are studies that have examined how agency impacts the EIA process such as Kørnøv and Thissen's (2000) study on rational decision-making in SEA.

CHAPTER 5: CONCLUSION

This thesis demonstrates that power analyses can help us understand key differences in the role of local-level actors in EIAs by answering the research question posed earlier: do political structures impact how groups in frontline communities influence the EIA process, and if so how? Using structuration theory as a theoretical framework this thesis concludes that there is a strong correlation between macro-political structures and the influence of municipalities, traditional land users, and aboriginal governance structures in the EIA processes studied. Decentralization and indigenous rights were the major factors linked to the influence of local level actors in the two cases studied.

An exploration of power and politics from a single theoretical framework, structuration theory, does limit this research. There are other no scholarly theories, for example Foucault or Marx, that could examine these case studies from a substantially different perspective and likely draw additional, or even differing, insights - such is the wonder of political theory. Examining this study from a multitude of political lenses would be an arduous task but could certainly prove to be interesting and valuable. From a data perspective, the limited number of interviews in Northern Saskatchewan and the challenge of accurately translating Norwegian documents created gaps in the data analysis which in turn impacted the results of this study. Results would have been stronger had their been the opportunity to collect more data for this study.

By using the comparative study method in combination with structuration theory this study was able to investigate how macro-political structures shape the micro-politics of the EIAs in this study. This led to identifying two key structures - land rights and

decentralization - that deeply impacted the agency of local-level actors in the EIA process. This suggests that policy makers and those interested in improving the EIA process need to look beyond the internal workings of EIA if they want to see substantial changes with regards to the participation and the role of local-level actors. This finding supports other studies (Runhaar and Harts 2015; O'Faircheallaigh 2010) that suggest researchers and practitioners need to examine external institutional structures in order to improve the EIA system.

The study also reinforces the idea that agency is critical in order for stakeholders to participate meaningfully in the EIA process and that political structures are not the only factor linked to the influence of stakeholders in the EIA process. Structural advantages, for example land rights, are only useful if actors use these resources to advocate for themselves; for example, in the Saskatchewan case when community members requested that Cameco add the trapper as a VEC. Conversely, structural disadvantages, such as the Sami's shortage of land rights, will continue to perpetuate within the system unless actors, locally and nationally, choose to intervene with the status quo. Actors need to be savvy and engaged in order to actively take advantage of all the resources available to them, such as the Sami Parliament focussing on cultural heritage rights, to try and compensate for certain structural barriers. Thus, agency is critical for the engagement of local-level actors in EIA. The system can support the agency of local-level actors by reducing barriers such as capacity. This echoes the opinions of many researchers and advocates in the field of EIA who believe that financial support and education are essential to meaningful participation.

A particularly interesting point for further study that this thesis highlights is the relationship between decentralization and the role and influence of actors. It would be extremely valuable to examine a large number of cases, both within a single state and between different states, to see if this observation proved to be true in other cases. There is already a considerable amount of work done on quantifying decentralization therefor a study on decentralization and EIA could be done quantitatively as well as qualitatively.

The use of structuration theory in this thesis suggests that improving EIA requires much more than policy tweaks and improving best practices. The EIA process is not isolated from the larger, macro-political structures; if we do not understand how these structures influence EIA processes, we run the risk of advancing policy changes that simply may not work. Indigenous land rights may have a far greater impact on local actors' agency in EIA processes, for instance, than changing public participation requirements. Effective and meaningful solutions require not only looking within EIA processes, but also looking outwards towards the larger macro-political structures.

Appendix 1 – Documents Included in Document Analysis

Consolidation	Regulations Designating Physical Activities	Government of Canada	12/2014
EIA Document	Technical Review Comments Environmental Impact Statement for the Rabbit Lake Solution Processing Project	Government of Saskatchewan, Ministry of Environment	2008
EIA Document	Golden Heart Gold Mine Project Environmental Impact Statement	Government of Saskatchewan, Ministry of Environment	09/2011
EIA Document	Rabbit Lake Tailings North Pit Expansion Project: Project Description	Government of Saskatchewan, Ministry of Environment	06/2011
EIA Document	Notice of Adjournment of Public Hearing - Millennium Mine Project	CEAA	06/09/2014
EIA Document	Public Notice - Environmental Impact Assessment Notice	CEAA	10/18/2013
EIA Document	Order Designating the Millennium Mine Project	CEAA	10/07/2013
EIA Document	Funding Review Committee's Report (Aboriginal Funding Envelope - Phase II)	CEAA	10/15/2010
EIA Document	Final Project Specific Guidelines Scoping Document for the Proposed Millennium Mine Project	CEAA	09/22/2010
EIA Document	Record of Proceedings, Including Reasons for Decision - Cameco Corporation - Project Specific Guidelines Scoping Document for the Proposed Millennium Mine Project	CEAA	09/22/2010
EIA Document	Public Comments Invited on the Project and Conduct of the Comprehensive Study	CEAA	07/19/2010

EIA Document	Notice of Commencement of an Environmental Assessment	CEAA	07/19/2010
EIA Document	Funding Review Committee's Report (Aboriginal Funding Envelope)	CEAA	05/20/2010
EIA Document	Availability of $20,000 to Participate in the Environmental Assessment	CEAA	05/14/2010
EIA Document	Draft Project-Specific Guidelines Scoping Document	CEAA	05/13/2010
EIA Document	Request for Public Input into the Environmental Assessment	CEAA	05/13/2010
EIA Document	Millennium Mine Project - Federal Environmental Assessment Coordinator Agreement	CEAA	10/21/2009
EIA Document	Province of Saskatchewan Ministry of Environment Ministerial Approval Pursuant to Section 15(1)(a) The Environmental Assessment Act, Cameco Corporation Millennium Project	Government of Saskatchewan, Ministry of Environment	12/10/2013
EIA Document	Reasons For Decision Ministerial Approval Pursuant to Section 15(1)(a) The Environmental Assessment Act, Cameco Corporation Millennium Project	Government of Saskatchewan, Ministry of Environment	12/10/2013
EIA Document	Millennium Project Environmental Impact Statement	Government of Saskatchewan, Ministry of Environment	2013
EIA Document	Appendices Millennium Project Environmental Impact Statement	Government of Saskatchewan, Ministry of Environment	2013
EIA Document	Technical Review Comments on the Environmental Impact Statement Cameco Corporation Millennium Project	Government of Saskatchewan, Ministry of Environment	10/2013
EIA Document	Kvalsund Municipality Approved	Nussir	06/30/2010

	Scoping Plan		
EIA Document	Kvalsund Municipality - Municipal Council Scoping Plan Protocol	Nussir	05/12/2010
EIA Document	Sweco - Suggestion for Scoping Plan	Nussir	03/25/2010
EIA Document	Norwegian Food Safety Program (Input for Scoping Plan)	Nussir	12/10/2010
EIA Document	Fiskarlaget (Input for Scoping Plan)	Nussir	12/07/2010
EIA Document	Environmental department (Input for Scoping Plan)	Nussir	06/28/2010
EIA Document	The Directorate of Mineral Management (Input for Scoping Plan)	Nussir	06/18/2010
EIA Document	West Finnmark reindeer herding management (Input for Scoping Plan)	Nussir	05/26/2010
EIA Document	Kvalsund Municipality (Input for Scoping Plan)	Nussir	05/19/2010
EIA Document	Reindeer herding district 22 (Input for Scoping Plan)	Nussir	05/16/2010
EIA Document	Repparfjord Land Owner Association (Input for Scoping Plan)	Nussir	05/10/2010
EIA Document	Kysverket (Input for Scoping Plan)	Nussir	05/10/2010
EIA Document	Jørgen Kleivan (Input for Scoping Plan)	Nussir	05/10/2010
EIA Document	Institute of Marine Research (Input for Scoping Plan)	Nussir	05/10/2010
EIA Document	The Sami People's Association (Input for Scoping Plan)	Nussir	05/09/2010
EIA Document	The Coastal Fishers (Input for Scoping Plan)	Nussir	05/09/2010
EIA Document	Klubben and Environs Local Association (Input for Scoping Plan)	Nussir	05/09/2010
EIA Document	Jonny Olsen (Input for Scoping Plan)	Nussir	05/09/2010
EIA Document	Norwegian Water Resources and Energy Directorate (Input for Scoping Plan)	Nussir	05/07/2010

EIA Document	Climate and Pollution Agency (Input for Scoping Plan)	Nussir	05/07/2010
EIA Document	The Directorate of Mineral Management (Input for Scoping Plan)	Nussir	05/07/2010
EIA Document	Norway's Hunting and Fishing Association Finnmark (Input for Scoping Plan)	Nussir	05/06/2010
EIA Document	Halsvik Aggregates (Input for Scoping Plan)	Nussir	05/06/2010
EIA Document	Forum for Nature and Outdoor recreation Finnmark (Input for Scoping Plan)	Nussir	05/06/2010
EIA Document	The Office of the Governor of Finnmark (Input for Scoping Plan)	Nussir	05/05/2010
EIA Document	Finnmark County Government (Input for Scoping Plan)	Nussir	05/05/2010
EIA Document	Lars Haugen and Family (Input for Scoping Plan)	Nussir	05/04/2010
EIA Document	Tromsø University Museum (Input for Scoping Plan)	Nussir	04/29/2010
EIA Document	Misc Neighbours (Input for Scoping Plan)	Nussir	04/28/2010
EIA Document	Directorate of Fisheries (Input for Scoping Plan)	Nussir	04/09/2010
EIA Document	The Norwegian Public Roads Administration (Input for Scoping Plan)	Nussir	04/07/2010
EIA Document	Oluf Holmgren (Input for Scoping Plan)	Nussir	04/07/2010
EIA Document	The Office of the Governor of Finnmark's preliminary input (Input for Scoping Plan)	Nussir	02/09/2010
EIA Document	Akvaplan-Marine Baseline study	Nussir	06/14/2011
EIA Document	Akvaplan - Marine fish Baseline study	Nussir	06/07/2011
EIA Document	Akvaplan - Marine Fish EIA study	Nussir	05/07/2011
EIA Document	Akvaplan - Tailings deposit marine life EIA study	Nussir	06/01/2011

EIA Document	Bedriftskompetanse - Social issues ESIA study	Nussir	05/12/2011
EIA Document	Bergfald - Alternative use of tailings EIA study	Nussir	05/12/2011
EIA Document	Finnmark County - Cultural heritage ESIA study	Nussir	11/22/2010
EIA Document	NIKU Cultural heritage ESIA Study	Nussir	12/10/2009
EIA Document	NIKU - Seasami ESIA Study	Nussir	03/30/2011
EIA Document	NIVA - Freshwater Baseline Study	Nussir	04/18/2011
EIA Document	NIVA - Landfill EIA Study	Nussir	05/12/2011
EIA Document	NIVA - Salmon EIA Study	Nussir	05/30/2011
EIA Document	NORUT - Reindeer herding ESIA Study	Nussir	04/15/2011
EIA Document	NTNU - Physical Chemical properties Tailing EIA Study	Nussir	05/17/2011
EIA Document	Smetinget - Cultural heritage ESIA Study	Nussir	04/13/2011
EIA Document	SINTEF - Recycling tailings ESIA study	Nussir	05/16/2011
EIA Document	SWECO - Landscape and outdoor activities	Nussir	05/25/2011
EIA Document	SWECO - Traffic (ex. maps)	Nussir	04/26/2011
EIA Document	SWECO - Traffic (w. maps -28 MB)	Nussir	04/26/2011
EIA Document	Letter to the Ombudsman - Zoning plan complaint	Nussir	04/04/2014
EIA Document	Ministry of Local Government - Nussir Decision	Nussir	03/20/2014
EIA Document	County Governor of Finnmark's submission letter	Nussir	11/30/2012
EIA Document	Kvalsund minicipality - Case 80/12	Nussir	10/25/2012
EIA Document	Kvalsund Municipality - main minutes	Nussir	20/25/2012

EIA Document	Sweco Zoning Plan submission letter	Nussir	06/03/2011
EIA Document	Zoning Plan with ESIA studies	Nussir	06/03/2011
EIA Document	Map A	Nussir	06/03/2011
EIA Document	Map B	Nussir	06/03/2011
EIA Document	Ventilation	Nussir	05/24/2013
EIA Document	Adjusted outlet of tailings	Nussir	04/16/2012
EIA Document	Depths in the Tailings Deposit	Nussir	03/27/2012
EIA Document	Faegfjordholmen Tailings Deposit	Nussir	03/18/2012
EIA Document	Flotation Chemicals	Nussir	02/24/2012
EIA Document	Reply from Akvaplan to Commentaries	Nussir	11/18/2011
EIA Document	Reply from NIVA to Commentaries	Nussir	10/05/2011
EIA Document	Directorate of Fisheries - Correction (Commentaries)	Nussir	12/02/2011
EIA Document	Directorate of Fisheries - New Commentary (Commentaries)	Nussir	11/25/2011
EIA Document	NVE (Commentaries)	Nussir	09/20/2011
EIA Document	The Norwegian Society for the Conservation of Nature (Commentaries)	Nussir	09/15/2011
EIA Document	Coastal Fishers - Kvalsund branch (Commentaries)	Nussir	09/15/2011
EIA Document	Institute of Marine Research (Commentaries)	Nussir	09/15/2011
EIA Document	Sami Parliament (Commentaries)	Nussir	09/14/2011
EIA Document	District 22 (Commentaries)	Nussir	09/14/2011
EIA Document	Fishers of Norway (Commentaries)	Nussir	09/14/2011

EIA Document	The Green Environmental Party Finnmark (Commentaries)	Nussir	09/14/2011
EIA Document	Forum for Nature and Outdoor recreation in Finnmark (Commentaries)	Nussir	09/14/2011
EIA Document	Governors Office of Finnmark County Environmental Department (Commentaries)	Nussir	09/09/2011
EIA Document	Directorate of Fisheries (Commentaries)	Nussir	09/08/2011
EIA Document	University of Tromsø (Commentaries)	Nussir	09/07/2011
EIA Document	District 22 (Commentaries)	Nussir	09/07/2011
EIA Document	Mihkkal Niilasa siida (Commentaries)	Nussir	09/07/2011
EIA Document	Salmonrivewrs of Finnmark (Commentaries)	Nussir	09/07/2011
EIA Document	Headline (Commentaries)	Nussir	09/07/2011
EIA Document	West - Finnmark Hunter and Fisher Assocation (Commentaries)	Nussir	09/06/2011
EIA Document	NPRA (Commentaries)	Nussir	09/06/2011
EIA Document	Repparfjord Eiendom (Commentaries)	Nussir	09/06/2011
EIA Document	Per Ole Israelsen (Commentaries)	Nussir	09/06/2011
EIA Document	Norwegian Saami Association (Commentaries)	Nussir	09/06/2011
EIA Document	Norwegian Food Safety Authority (Commentaries)	Nussir	09/06/2011
EIA Document	Socialist Left Party of Norway - Finnmark (Commentaries)	Nussir	09/06/2011
EIA Document	The Reindeer Herding Management of West - Finnmark (Commentaries)	Nussir	09/05/2011
EIA Document	Repparfjord Landowners (Commentaries)	Nussir	08/31/2011
EIA Document	Directorate of Mining (Commentaries)	Nussir	08/31/2011

EIA Document	Finnmark County Cultural Heritage (Commentaries)	Nussir	08/25/2011
EIA Document	The Finnmark Property (Commentaries)	Nussir	08/25/2011
EIA Document	Norwegian Coastal Administration (NCA) (Commentaries)	Nussir	08/01/2011
EIA Document	Hammerfest municipality (Commentaries)	Nussir	07/15/2011
EIA Document	Comments on objection letter in connection with the zoning plan for mining	Nussir	02/13/15
Guidelines	Aboriginal Consultation and Accommodation	Indigenous and Northern Affairs Canada	03/2011
Guidelines	Proponents Guide: Consultation with First Nations and Métis Communities in Saskatchewan Environmental Impact Assessment	Government of Saskatchewan, Ministry of Environment	06/2014
Guidelines	Environmental Assessment in Saskatchewan	Government of Saskatchewan, Ministry of Environment	06/2014
Guidelines	Technical Proposal Guidelines	Government of Saskatchewan, Ministry of Environment	06/2014
Guidelines	Guidelines for the Preparation of the Terms of Reference	Government of Saskatchewan, Ministry of Environment	06/2014
Guidelines	Technical Review Guidelines	Government of Saskatchewan, Ministry of Environment	06/2014
Guidelines	Codification of Current Practice: Canadian Nuclear Safety	CNSC	08/2011

	Commission (CNSC) Commitment to Aboriginal Consultation		
Guidelines	Environmental Impact Assessment	NORAD	2003
Guidelines	Exploration and Mining Guide for Aboriginal Communities	PDAC	2013
Legislation	*Canadian Environmental Assessment Act, 2012*	Government of Canada	2012
Legislation	*Canadian Environmental Assessment Act*	Government of Canada	1992
Legislation	*Environmental Assessment Act*	Government of Saskatchewan	2013
Legislation	*The Northern Municipalities Act, 2010*	Government of Saskatchewan	2010
Legislation	*Finnmark Act*	Government of Norway	2005
Legislation	*Planning and Building Act*	Government of Norway	2003
Legislation	*Regulations on Environmental Impact Assessment for plans pursuant to the Norwegian Planning and Building Act*	Government of Norway	2014
Other	Fact Sheet - Uranium Mining and Milling: The Facts on a Well-Regulated Industry	CNSC	06/2012
Other	Process Diagram: Environmental Assessments Managed by the Agency	CEAA	05/2013

Appendix 2. Field School Presentations

04/27/2015	Snåsa, Norway	The role of an elective representative in Norwegian Sámi Parliament, legislative issues with reindeer herding and animals of prey, relationship between Sámi and the Norwegian Parliament	Thomas Åhren
04/27/2015	Snåsa, Norway	Role of representing Sámi in the past and present	South Sámi Museum Staff
04/28/2015	Hattfjelldal, Norway	Hattfjeldall Sámi School and the preservation of South Sámi Language	Hattfjeldall Sámi School Staff
04/28/2015	Hattfjelldal, Norway	The role of Sitji Jarnge South Sámi South Sámi Culture and Development Centre	Centre Staff
04/28/2015	Hattfjelldal, Norway	The role of the South Sámi Library Bus	Buss Staff
04/29/2015	Tärnaby, Sweden	Local activist campaign“Stoppa gruvan i Rönnbäcken” and the speaker's entrepreneurial business Maries Design	Marie Persson
04/29/2015	Tärnaby, Sweden	Swedish Sámi curricula	Odd Willenfeldt
04/30/2015	Vilhelmina, Sweden	Collaborative research in practice - reflections from different perspectives	Per Sanström, Anette Löf and Marita Stinnerbom
05/01/2015	Östersund, Sweden	Sámi political movement	Patrik Lantto
05/01/2015	Östersund, Sweden	Comparative Research Approaches	Greg Poelzer
05/02/2015	Östersund, Sweden	Gaaltjie South Sámi Cultural Centre	Jerker Bexelius
05/02/2015	Östersund, Sweden	Jamtli, the regional museum of Jämtland	Museum Staff

Appendix 3. List of Actors identified in Key Decision Arenas

Proponent	Cameco Corporation	Nussir ASA
Municipalities	Northern Settlement of Pinehouse Northern Hamlet of Patuanak Northern Hamlet of Stony Rapids Northern Settlement of Wollaston Lake Northern Settlement of Uranium City Northern Settlement of Camsell Portage	Kvalsund Municipality
Regional agencies		Finnmark County Government Norway's Hunting and Fishing Association Finnmark
National/Provincial authorities	Canadian Nuclear Safety Commission (CNSC) Saskatchewan Environmental Assessment Branch (SEAB) Transport Canada Fisheries and Oceans Canada Environment Canada Natural Resources Canada Health Canada Aboriginal Affairs and Northern Development Canada	Environmental Department of Norway Directorate of Mineral Management Norwegian Water Resources and Energy Directorate Climate and Pollution Agency Norwegian Food Safety Authority Directorate of Fisheries
National/Provincial authorities (cont'd.)		Norwegian Coastal Administration (Kystverket)

	Canadian Environmental Assessment Agency	The Norwegian Public Roads Administration
Aboriginal governments	English River First Nations (ERFN) Lac La Ronge Indian Band (LLRIB) Hatchet Lake Denesuline First Nation Black Lake Denesuline First Nation Fond du Lac Denesuline First Nation Métis Nation of Saskatchewan (MNS) Local Number 82 (Patuanak) MNS Local Number 9 (Pinehouse)	Saami Parliament
Indigenous groups	Prince Albert Grand Council MNS	Sami People's association West Finnmark reindeer herding management Reindeer herding district 22
Members of the Public: Non-governmental, private organizations, and individuals **Members of the Public: Non-governmental, private organizations, and individuals (cont'd.)**	Northern Saskatchewan Environmental Quality Committee Athabasca Working Group Local Northern Businesses Northern Labour Market Committee Northern Career Quest	Norwegian Fisherman's Association Repparfjord Land Owner Association Jørgen Kleivan Oluf Holmgren Institute of Marine Research Coastal Fishers

Klubben and Environs
Local Association

Johnny Olson

Halsvik Aggregates

Forum for Nature and
Outdoor recreation
Finnmark

Lars Haugen and family

Tromsø Univeristy Museum

Miscellanious neighbours

Appendix 4. Cameco's Public Participation Meetings

NSEQC	La Ronge	Jun-08	
ERFN Chief and Council	N/A	Oct-08	
NSEQC	La Ronge	Dec-09	
NSEQC	La Ronge	Mar-09	
SCEQC	Key Lake Site	May-09	Federal and provincial
ERFN Leadership	Saskatoon	May-09	
NSEQC	La Ronge	Jun-09	
NSEQC	La Ronge	Nov-09	
Pinehouse Community	Pinehouse	Nov-09	Provincial
ERFN/Patuanak Community	ERFN/ Patuanak	Nov-09	Provincial
Canoe Lake Community Meeting	Saskatoon	Apr-10	Federal
SCEQC	Key Lake Site	Jun-10	Federal
LLRIB Chief and Council	Saskatoon	Sep-10	
Pinehouse Community	Pinehouse	Oct-10	Federal and provincial
ERFN/Patuanak Community	ERFN/Patuanak	Oct-10	Federal and provincial
NSEQC	La Ronge	Nov-10	
AWG	Saskatoon	Mar-11	
NSEQC	La Ronge	Mar-11	
Pinehouse Community	Pinehouse	Oct-11	Federal and provincial
ERFN/Patuanak Community	ERFN/Patuanak	Oct-11	Federal and provincial
NSEQC	La Ronge	Jun-11	
Trapper/Resource User	Saskatoon	Jul-11	
SCEQC	Saskatoon	Jul-11	
NSEQC Meeting	La Ronge	Nov-11	
NSEQC Meeting ERFN EQC	La Ronge Saskatoon	Jun-12 Jul-12	

Trapper/Resource User	La Ronge	Jul-12	
SCEQC	La Ronge	Jul-12	
Pinehouse Community	Pinehouse	Aug-12	Federal
ERFN/Patuanak Community	ERFN/Patuanak	Aug-12	Federal
NSEQC	La Ronge	Oct-12	
AWG	Prince Albert	Dec-12	

Appendix 5 – Organizations responsible for an EIA study for the Nussir Project

Akvaplan – Nowergian consulting company specializes in aquaculture and northern environments (Subsidiary of NIVA)	Marine Fish Tailings deposit marine life
Bedriftskompetanse – Northern Norway Development Group	Social Issues
Bergfald – Norwegian Environmental Consulting company	Alternative use of tailings
Finnmark County	Cultural Heritage
NIKU – Norwegian Institute for Cultural Heritage Research (Non-profit)	Cultural Heritage Seasami
NIVA - Norwegian Institute for water research	Landfill Salmon
NORUT – Norwegian northern research organization	Reindeer Herding
NTNU – Norwegian Univeristy of Science and Technology	Physical Chemical properties Tailing
Sametinget -Sami Parliament	Cultural Heritage
SINTEF – Largest independent research organization in Scandinavia	Recycling tailings
SWECO – Europe's largest environmental consulting company	Landscape and outdoor activities Traffic

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